Ph.D. THESIS.

ECONOMIC DEVELOPMENT IN UNDERDEVELOPED COUNTRIES WITHIN THE FRAMEWORK OF AN INTERNATIONAL ECONOMY.

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EDINBURGH UNIVERSITY, 1951.

PREFACE.

"The Theory of Economics does not furnish a body of settled conclusions, immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions".

Even this modest function it performs with less ease when it is applied to problems of development in underdeveloped countries, for the conditions of society in these countries, and the nature of the problem with which they are faced, are different in many ways from those amidst which economic theory grew; and theory, in economics, inevitably "reflects the conditions of society to which it relates".

Yet it is very difficult to reflect on complicated social phenomena without the help of some sort of theory. I am not sure how far modern economic theory can be adapted to suit the problems raised by the question of development. Since, however, no intellectually satisfying alternative is in sight, this study is essentially a series of comments on particular points of theory, which seemed more relevant than others to this question.

Differences of opinion in economic science abound, and they cannot be easily localised; every writer has his own system of thought. A full discussion of every point raised would have taken us far afield, and to preserve some semblance of unity of theme the argument had to be somewhat selective. Some of the wider considerations behind the selection are to be found in a concluding chapter, where the whole argument is summarised.

This study was made possible by a scholarship awarded by the

Faculty of Law, Alexandria University. Mr. F. Sadek, of the Faculty of Science, Cairo University, was kind enough to check on the mathematical part of chapter III.

My greatest debt,however, is to Dr. Mary Rankin, Reader in Political Economy in Edinburgh University, who supervised this work. Without her patience in the face of my many and often persistent misunderstandings of theory, her toleration of many changes of plan, and her very generously given encouragement, it would have been even more incomplete.

CONTENTS:

ABBREVIATIONS.

E.J.:	Economic Journal.
Econ.:	Economica.
R.E.S.:	Review of Economic Studies.
A.E.R.:	American Economic Review.
Q.J.E.:	Quarterly Journal of Economics.

CHAPTER I.

Introduction: The Demographic Cycle.

Up to the second half of the nineteenth century, the Malthusian thesis, in its less arithmetical form, was, generally speaking, an adequate interpretation both of world economic history and of the effect of the population factor on the prospects of future improvements. Continuous increase in technical knowledge would not invalidate it, though a modification of his argument may be required in the direction of a shift of emphasis and interest from diminishing returns from natural resources and from subsistence levels towards the greater sacrifices which, if population is continuously increasing at the "natural" rate, a given generation must undergo in order to provide its successor with the capital equipment necessary to maintain or raise a given standard of living.

In the nineteenth century, however, the human term of the Malthusian calculations ceased to hold in the West, thanks to man's increasing ability and willingness to control the rate at which he propagates, and particularly to his willingness to be influenced, in determining this rate, by economic considerations. Most countries, however, have not reached this stage, and it will be interesting to consider, in general terms, their prospects of reaching it in the light of western demographic history.

This history can be roughly divided into five stages. It shows the same pattern in the different countries, which come under the term "West", allowing for time lags and local variations.(1) Some countries may not have actually reached the fifth stage, though a strong probability that

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(1) Cf: "World Population" by Sir Alexander Carr-Saunders, chapters V - IX

they will reach it may be inferred from the age composition of the population and the death, and birth rates expected to prevail. For convenience however, and to give concreteness to the classification, these stages will be dated with reference to British demographic history. (2)

These stages are.

1. The Malthusian stability stage: This is characterised by high birth and death rates, which tend to balance each other, and thus maintain, over fairly long periods of time, a fairly stationary population, while fluctuating widely about any given norm in the short period, to allow for the adjustment of population to means of subsistence which may be disturbed momentarily by intermittent wars and epidemics, spasmodic improvements in technique, and sudden accession to new resources, sometimes with corresponding modification of the norm. While this cannot be proved statistically, the comparatively slow rate of population increase suggests that this was the case up to the eighteenth century. The time span encompassed by this stage, which reaches from the beginning of time up to the eighteenth century, is so long that the short period referred to here may be as long as, or even longer than, the length of time which encompasses the whole of any of the following stages. There is no

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(2) This classification is based on information contained in the work mentioned in the previous footnote and was itself suggested by a similar classification of present world demographic trends by Dr. C. Blacker in an article entitled "Stages of Population Growth", Eugenic Review, vol. 39, No. 3, October 1947.

reason, however, to fear that any of the following stages may represent short-period waves of the same secular trend, since the basis of classification is not merely changes in the size of the population within any given period of time, but also the elements in the situation behind this change, and these, for the following stages, are different from those which caused the short period fluctuations referred to above.

2. High expanding stage: This was characterised by an initial rise in the birth rate to an even higher level, at which, with minor fluctuations, it remained stationary, and by a definite downward trend in the death rate to an extent unreached before. The continuous reduction in the death rate was due to advance in medical science and improvement in sanitary and, later on, nutritive conditions. The result was a great swarming of population. The rate of increase of population was probably first increasing then decreasing, then it increased again, only to resume its decreasing course, which continued up to the present time. This stage extends from the beginning of the eighteenth century to the eighteen seventies.

3. Low expanding stage: characterised by a definite downward trend in the birth rate, while the death rate continued to decline at an even increasing rate. Population continued to increase, but at a continuously decreasing rate. The novel element in this stage: the special influences which made for the reduction in the birth rate, will be considered below. This stage extends from the eighteen-seventies to the nineteen-twenties.

4-5. Low stationary and declining stages: Birth rate continues to decline while death rate is stabilised at a low level. Population may con-

tinue to increase - at a continuously slower rate - but its age composition contains indications of its ultimately becoming stationary and then declining. These two stages have actually been reached in France.

At present, the world can be divided into five similar classes according to the stage of the demographic cycle they have reached: (3)

1. High stationary class: Where birth and death rates are high but approximately balancing each other, with death rate fluctuating more violently than birth rate. Countries in this class are: China, Persia, Arabia, Afghanistan, Africa South of the Sahara and most South American countries.
2. Early Expanding class: Where birth rates are high but death rates are either stationary at a lower level or falling, the difference making for a great swarming of population similar to that which occurred in the west at the corresponding stage. Countries in this class are: India, the rest of Asia with the exception of Japan and North Africa.
3. Late expanding class: Where birth and death rates are declining but death rate are consistently lower, thus making for an annual increase in population. Countries in this class are: The European part of the Soviet Union up to 1934, Japan, Bulgaria, Rumania, Jugoslavia, Italy, Spain, Argentine and Chile.

4-5. Low stationary and declining classes.: With low birth and death rates and a unity or less than unity net reproduction rate. Countries

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(3) For figures, cf. the above mentioned article by Dr. Blacker.

in these classes are Western Europe, North America, Australia and New Zealand.

Can we say that there is a universal demographic cycle at different stages of which different countries now stand? The fact that Japan and Eastern European countries, both of which did not originally share the same historical developments which made the West almost like one single cultural unit, have passed from the high stationary through the early expanding to the late expanding stage may suggest that there are universal forces operating, with different time-lags, in all countries, which will enable them all to pass through this cycle. Historical evidence, however, does not go beyond the inference derived from Japanese and Eastern European countries, for though the high expanding stage through which India, most Middle-Eastern, and North African countries are now passing may resemble the high expansionary stage of Western history in one respect, they differ from it in another. In both cases, the great advances made in medical science, particularly the control of epidemics, were the main cause of the fall in the death rate. In the West, however, the increase in population was accompanied by a continuous rise in the income - levels, which led to better food and housing conditions, while in India and the Middle East no such rise occurred. At best, total income only kept pace with the increase in numbers, while in some countries the increase in numbers was at the expense of the standard of living. (4)

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(4) In Egypt the total consumption of tobacco, coffee, meat, textiles, and cereals fell during the period 1920-1938, although population increased by 25%. Total consumption of tea and sugar increased, but by less than the increase in population. Cf. Charles Issawi: "Egypt: An Economic and Social Analysis", for the Royal Institute of International Affairs, P.55. Between 1937 and 1945 the real

(4) contd.

income level fell still further (See: An Analysis of Egypt's National Income, by Dr. M. Anis). Other factors such as the worsening of the terms of trade, the increase in the inequality of income due to government policy in favour of landlords, tarriff barriers whose burden fell mainly on poor consumers, and war conditions, contributed to this, but the unmistaken pressure of population in a predominantly agricultural country like Egypt is indicated by the failure of the cultivated area to increase in the same proportion as population, and the consequent failure - despite a considerable increase in crop yields - of the total agricultural produce to keep pace with population. For detailed information Cf. Doreen Warriner: "Land and Poverty in the Middle East", London, 1948, for the R.I.I.A., P. 31, 32.

For India Sir Alexander Carr-Saunders writes: "While deaths directly due to famine are less numerous than formerly, it is probable that this does not indicate an improvement in the total food supply so much as improvement in transport and organisation which enables food to be brought to the stricken districts", op.cit, p. 272.

In Monsoon Asia the volume of rice production was less than the increase in population from 1920 to 1935 Cf. Professor F. Lorimer's paper "Essential standards of living" published in "Proceedings of the International Congress on Population and World Resources", 1948". P. 31.

The same tendency of per capita income to decline continues up to the present moment over the whole region of Asia and the Far East. Cf. "Economic Survey of Asia and the Far East, 1949", United Nations publication, pp., xvii and xixiii.

Because the increase in numbers was not mainly due to increase in the means of subsistence, this stage is not one of the phases of the Malthusian process of adjustment, while the absence of change in economic organization and technique such as happened in the West at the corresponding stage should make us hesitate to say that they are already on the second rung of the cycle.

Whether this cycle is likely or not to repeat itself in under-developed countries is still a matter of conjecture. Two questions stand out in importance in this connection:

1. Whether it is possible for them to pass directly from the high stationary to the low expanding stage or - especially for those countries which are already in the high expanding stage - to shorten the duration of the intervening swarming period.
2. If a considerably long swarming stage is inevitable, whether these countries are ever likely to emerge from this stage and reach the following ones.

Some writers would find an answer to the first question from "first principles". Thus Mr. K. David writes: "Both reproduction and preservation of life are indispensable for the continuance of any society, and therefore, through socialization, are instilled as profound values in the minds of each new generation. It follows that with the coming of a more deliberate innovative control over human affairs a movement to limit fertility in unaccustomed ways will meet strong opposition as being contrary to an established value, whereas attempts to preserve life, even in unaccustomed ways, will meet approval as being in favour of an established value. Thus the lag of birth control behind death control is implicit in the growing rationalism of modern life,

which first attacks the negative value (death) and only later the positive value (higher fertility)"[4A]

Though this is essentially correct, it is perhaps more instructive to study the forces which might act on the birth rate in under-developed countries in greater detail. It will be helpful in this respect to consider first the causes which made for the fall in birth rate in the West in order to see whether they can be expected to operate in those countries. Again it is sufficient here to draw on British experience, for the general pattern was the same in different countries of the West.

The factors affecting the birth rate are the ratio of the people who ultimately get married to the total number of population and the average number of children per marriage.

Though the rate of marriage did not play an important role in the fall of the birth rate in England,[5] it is probable that a higher rate exists in underdeveloped countries. It is difficult, however, to relate this factor to changes in the social and economic structure of society associating with development in any relevant way. Accordingly it will not be considered here.

The reduction in the average size of the family is partly due to the rise in the age of marriage and partly to the practice of birth control. The latter was dependent on the discovery of new methods of birth control and - through propaganda - the spreading of knowledge about them, but it is the willingness to limit the size of the family which has to be explained. The new knowledge only made it possible to give

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(4A) Demographic Studies of Selected Areas of Rapid Growth", Milbank Memorial Fund, P. 43.

(5) Cf. Report of the Royal Commission on Population, 1949, table XIII, P. 22.

effect to a desire which was brought about by changes in attitudes and in the social and economic organization - it is unlikely that such knowledge would have had a similar effect in eighteen-century England. These changes, in so far as they affect family limitation, can be roughly reduced to the decline of the importance of the family as an economic unit which, coupled with obligatory elementary education, and public regulation of child work, made children economically a liability rather than an asset; the greater competitiveness of society, both in the sense of the wish to push ahead and the greater possibilities of advance, which made a hindrance to the parents as well as to the children themselves of a large number of children; the higher standards of parental responsibility; the rise in women's status which enabled their probably universal aversion to the sufferings and drudgery of bearing and then rearing a large number of children to be taken into account; and the rise of income to the level at which consumption took the form of out-of-door time-consuming activities for both women and men. Other factors which, by their absence, made for the fall in birth rate, will best be considered in connection with conditions in underdeveloped countries.

Though these causes affected all classes of the community, they had their most powerful effect at income levels above that of the working class. Competitiveness, and perhaps the sense of insecurity associated with it, were strongest at middle-class level, and most of the other factors pre-suppose a higher level of education and refinement than can be obtained at low-income levels. Statistical investigations show a greater percentage reduction for higher social classes in the average size of the family, calculated for women marrying 1851-61 and those marrying 1881-85 and also an increasing divergence between the average size of the family

in the higher social classes and the same in the lower social classes, both taken as a proportion of the average for all classes taken together. (6)

The fact that the factors which made for the fall in the birth rate in the West do not exist on any large scale in underdeveloped countries, coupled with lack of knowledge of and facilities for birth control, explain to a great extent the existence of large families in them. In addition there are other positive causes. The predominance of rural conditions in these countries make children an economic asset at an early age. The absence, in some of them, of a tradition of strong central government, with efficient police force capable of giving the individual protection from personal aggression, makes him seek collective security by tightening kinship ties; this makes the family in the larger sense of a clan or tribe, the social unit and places on its members an obligation to contribute, by increasing numbers, to this security. It is almost a universal trait of human nature to wish to perpetuate, through one's offspring, one's existence, and where death-rate, particularly among infants, is high, people tend to think that a large number of children is an insurance against total loss; the imperfect understanding of the causes of life and death, the fact that death in these countries is often more caused by epidemic and endemic diseases rather than by diseases which discriminate according to income, and that any increase in income per head, through a reduction in the size of the family, is more likely to be spent on necessary food and clothing rather than on an improvement in

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(6) Cf. the report of the Royal Commission, p. 25 et suite, particularly tables XIX and XX.

sanitary and housing conditions so slight, because of the limitations of income, that it will not make things much better - all these tend to strengthen this belief, and some of them give it a greater rationality than is at first apparent. Where the only means of earning one's living is one's physical labour, which reaches a maximum at a fairly early age and then declines continuously with time, it is all the more necessary to have children, the more the better, to whom one can look for support at old age. At the same time, there is no incentive to postpone marriage in the expectation of future rise in income. These factors give real material content to religious and moral teachings which approve of early marriages and large families.

Because there are real reasons - rational ones, considering the social and economic set-up, for high birth rates, it is unlikely that propaganda for birth control would make much headway. At the same time, it is likely to be effective, given the necessary changes in economic and social conditions. There is little to suggest that there is in human beings an innate and deliberate, desire for large families for their own sake: the fact that there were among all peoples at a certain stage of civilization, special rites which had the effect of limiting the size of the family and the prevalence among them of infanticide and abortion, clearly suggest this. These methods of family limitation broke down with the rise of systems of ethics which was made possible by the change from primitive economies to advanced methods of cultivation in the early civilizations of the East. We must distinguish between the obstacles to birth limitation arising from the objection to new modes of life because they conflict with established values, and those which arise from a positive desire - resting on real reasons - for many children. The former

are likely to be overcome only if the latter are, and the latter are certain to be overcome by changes in social and economic conditions. There are already indications that where social and economic conditions are favourable, birth rate is affected, both through the rise in the marriage age and through birth control. In Egypt, for example, while the birth rate was 43.9 per thousand in the Governorates (i.e. big cities), it reached 48.6 in the provinces of Lower Egypt and 49.7 in the more patriarchal and poorer provinces of Upper Egypt. (7) Similar differentials between Urban and rural areas were found in other countries of the Near East. (8) In India, a small but nevertheless definite differential in fertility rates between urban and rural regions, and between bigger and smaller cities, though constant overtime, was found to exist, and there are "hints" of such differentials as between castes and classes. (9)

Urbanization affects the birth rate because the wage system which prevails in towns replaces the rural family economy, and because town values are more flexible than country values. But the differential in birth rates between urban and rural regions is predominently due to the difference in average income between town and country. Hence neither urbanization nor industrialization can be expected to have much effect on the birth rate unless they are accompanied by rise in income. Can such a rise be expected?

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(7) Cf: Clyde V. Kiser: "The Demographic Position of Egypt", in "Demographic Studies in Selected Areas of Rapid Growth", published by the Milbank Memorial Fund, P.110.

(8) Cf: "Prospects for population Growth in the Near East", by Ernest Jurkat, in the same publication, P.87.

(9) Cf: Kingsley Davis: "Demographic Facts and Policy in India", in the same publication, P.50.

Any rise in income is bound to result in an immediate increase in numbers, not only because the death rate will fall sharply, even sharper than it did in the early expanding stage in the West, when medical discoveries, methods of controlling epidemics, and the realization of the importance of improving sanitation all came gradually, and there were not the vast accumulation of knowledge ready for use and capable of having an immediate effect that there is now, but also because the birth rate may even rise to a higher level than the high level which already obtains. This is for two reasons:

1. the first death rates to be affected will be those of the productive and sub-productive ages.
2. Improvements in health will reduce the high rates of miscarriage already existent.

The result would be an even greater rate of increase than ever practiced in the past. These countries then will be faced with one of those vicious circles with which social phenomena abound. The very things for which we want to reduce the rate of increase of population will accelerate population increase. Any step towards the goal will shift it further still. And the greater the rise of income the greater, at least in the short run, will be the rate of population increase.

Western Europe escaped the dilemma because it was fortunate in many ways which cannot be expected to be repeated. The opening up of the American west, then of South America and Oceana, provided it with cheap sources of food and raw materials. Its priority in the industrial revolution gave it a monopoly in industrial production, and further helped in turning the terms of trade in its favour. In contrast with under-developed countries, where early advances in culture made possible

the gradual accumulation of dense populations and which thus enter the industrial era with a real handicap, Western Europe can boast of a longer line of primitive ancestry on the occupancy of land that was formerly barren, which enabled it to enter the modern era with a low density of population.

As against this, low-income countries may have the advantages of the vast amount of technique accumulated in the last two centuries, the existence of already developed countries whose resources and productivity may help - through trade and investment - to short-circuit the long and often painful steps they themselves had had to take before they reached the present stage, and, perhaps, through the historical perspective the development of the West provides and through the advance in the social sciences, a better understanding of the phenomenon of development than was possible at first when, its hidden connections lost in the glare of the present and shrouded still in the mist of the future, it slowly unfolded itself.

Whether these factors can enable these countries to win the race against increasing numbers cannot be told from the following discussion, nor, indeed, from any type of theory. The recognition of the problem, however, necessitates, as will be argued in greater detail, a refocussing of attention away from the problem of allocative efficiency with which current theory is concerned to the more vital problem of factor supply, and underly the directions in which the application of modern analytical technique is sought in this work.

Though much of the following discussion is applicable to all low-income countries in potential or actual rates of population increase are high, this study is mainly concerned with those densely populated countries in which the scantiness of natural resources in relation to population rule out the possibility of obtaining high income-levels by specialising in the production of, and exporting, food and/or raw materials in exchange for manufactures, such as most countries of East and South-East Asia and some Middle-Eastern countries like Egypt, Syria and Lebanon.

The following chapter aims at providing a general theoretical framework with reference to which the discussion can be conveniently organised and in terms of which the purposes of development can be stated in a general form.

CHAPTER II

WELFARE ANALYSIS AND ECONOMIC DEVELOPMENT.

I. The concept of equilibrium is the centre of modern economic theory. All phenomena which have an economic aspect are divided into determinants and determinates. Determinants in their turn are further divided into independent variables and given factors, the latter being those which, though capable of change, are assumed constant for purposes of analysis. Both kinds of determinants are ultimately given for the economist, in the sense that the explanation of their magnitude, composition and variations lies outside the field of his interest. The relation of determinateness arises from some basic postulate about human nature, such as rational, in the sense of purposive, behaviour, and the desire to maximize monetary gain; about the laws of nature, such as the law of diminishing returns; and about the institutional set up, such as the existence of freedom of contract.

Since all economic phenomena are interdependent, no hard and fast line separates these categories. What is assumed constant in one context may become a variable or a determinate in another, according to the step reached in the analysis, the period of time taken into account, or the special purposes of the study in hand.

Throughout the course of theory's development, however, two major considerations of a more general nature have affected the lines of division:

1. The broad basic philosophy of Individualism which underlay the Anglo-saxon approach to economics.

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2. The quest of theory for scientific precision.

Under these two influences, economic theory managed to slice off for itself a sizable part of the aggregate social activities of which a society is composed, to term these activities "economic" and to establish theoretical models of the way these relations determine each other.

Thus taking as model a free market economy, with certain given institutional properties, it sets out to show that a determinate equilibrium is bound to be reached which, it is found, has many desirable attributes. It secures the maximum <u>freedom</u> for the individual: it is for the individual as producer to decide how much to exert himself in that part of human activity which enters the circle of exchange and in what line of activity he exerts himself; as consumer, it is for him to choose between present (limited) and future (more abundant) consumption; it is also for him to distribute his income the way he likes among different lines of consumption. Whenever a choice is made, and in order to make his choice meaningful and thus add to its freedom value, its cost, to himself and to society, is presented to him in direct market terms. Thus in deciding between exchange and non-exchange activities, he equates the marginal utility of income with the marginal utility of other activities (including rest from work). In deciding between present and future enjoyment, the mechanism of the rate of interest enables him to equate the marginal utility of future enjoyment, with the marginal disutility of waiting (or of obeying his natural inclination towards time- preference). Again the exchange values of goods and services to which the individual equates the marginal utilities he derives from them, are respectively equal to their/

their marginal costs of production. In this sense the free market economy achieves the best allocation of resources to their alternative uses. By equating the cost of any factor of production with the value of its marginal product, the economy secures the best distribution of resources (i.e. the most efficient way of producing a given amount of a given product). It is also efficient in another sense: It maximizes the amount of exchangeable goods and services consistent with any given system of preferences between engaging in exchangeable activities and following other pursuits, since every one will have an incentive of maximum intensity. By the same token it is all fair: every one takes out of the system what he brings to it.

This summing-up is necessarily dogmatic; there is no Economic Theory, there are only economic theorists, and almost every writer has his own reservations, as well as the limitations of the method of analysis he used. Thus while for Walras a free market economy meant an optimum distribution of commodities between different purchasers and optimum distribution of resources between different commodities, his assumption of constant technical co-efficients of production precluded the extension of the optimum conditions to the methods of producing a given amount of a given commodity. Pareto, who formulated the general conditions of optimum both for exchange and for production, did not interest himself in the distribution aspect of welfare, since he held that utilities between different individuals cannot be compared. Wicksell, who applied the Walrasian general equilibrium to the sphere of production, had his own reservations about the system of distribution reached by a free market economy. Marshall/

Marshall is a class apart, since he had his own special standards by which to judge the system: the extent to which it helps in developing a certain type of character which he held to be ideal. Yet it would be on the whole correct to say that these norms of freedom, fairness and efficiency, even before analytical technique reached the degree of sophistication and integration represented by the above formulation, and with the emphasis shifting from one norm to another with time as well as with different writers, represented, for the main body of economic theory, real goals to which a free economy tends to reach.

With the trend towards scientific exactness, however, these norms tended to be discarded for one single autonomous norm, derived from the concepts of economic theory itself, precisely formulated, and capable of measurement. This norm found its most exact formulation in Professor Pigou's restatement of the norm of Maximum Satisfaction. Some of the previous norms, such as freedom of choice and efficiency, were not so much abandoned as incorporated in the restatement, as conditions for the attainment of the norm, and with evengreater methodological consciousness, the former tended to be relegated to the status of an assumption in later writings, under the heading of Consumer's Sovereignty. This enabled welfare propositions to attain the status of a positive science, independent of value judgements, except the one judgment that satisfaction should be maximized; there is no difference between the statement: "if A ... B will follow" which is the universal form of scientific statements and the statement "if B is desirable then A should be fulfilled". At the same time it enabled it to draw on an equilibrium technique originally forged for analysing the working of a free/

free competitive economy. This approach will be followed in this study if only because it provides a convenient map of reference in relation to which different aspects of the subject in hand can be systematically studied. "Insistence on clarity at all costs is based on sheer superstition as to the mode in which human intelligence functions. Our reasonings grasp at straws for premises and float on gossamers for deductions.(1)

II. The doctrine of consumer's Sovereignty is the corner stone in the formulation of the norm of maximum satisfaction. It is connected with it in two ways. It governs it, in the sense that it makes consumption an end to which all other elements in the situation are related. And it determines the method of achieving satisfaction through consumption by making it fundamental to assume that maximum satisfaction is attained if every individual is left free to spend his income as he chooses. The first aspect will be examined, then the second.

Beyond a certain minimum level of income, man's economic welfare is probably/

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(1) Whitehead "Adventures of Ideas" Pelican ed. p. 91.

probably even more affected by the way he earns his income than by its size. To the extent that welfare economics does not take this into account it is a one-footed science.(2) Man's satisfaction from work depends on his personal relationships with, and status among, the people with whom and for whom he works, and on the nature of the work itself.(3) The first aspect raises questions of organization in which it is not proposed here to enter. The second is only partly optimally arranged under competitive conditions by freedom of choice of occupation and freedom of entery, even when these freedoms are fully substansive. In industries where the unit of organization is fairly big, as in sea and air transport and in chemical industries, the variety of jobs peculiar to these industries will not be open to individuals unless the industry offers entrepreneurial profits. This is not an important point in an industrially progressive well diversified economy, and indeed it was common at one time among literary writers, dreaming of an idyllic past replete with creative artisans to decry economic progress on account of the type of work which it offers. Yet, through the possibility it offers to everyone to adjust his work/

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(3) Professor Pigou deals with this, and only partly, under the heading of discrepancies between total and economic welfare. (Cf. "Economics of Welfare", p. 14 et suite). This is because he defines economic welfare as that which can be brought into relation with the measuring rod of money. The question is, of course, one of definition and method; it is contended here that it is too much related to satisfaction from economic activities to be left out and too important to be dealt with by way of exception.

(2) This of course does not apply to Marshall. It is a basic tenet of Marshall's scheme of thought that activities are "ends in themselves". His welfare views derive more from "the science of activities" than from "the science of wants" and the chief criterion for him by which a system judged is the degree to which it helps in developing a certain type of character, particularly as typified in the entrepreneur.

work to his own talents and bents, the wide choice of jobs which a diversified economy gives may be more important to the community's economic welfare than its effect on the amount of consumption, favourable or unfavourable.

As to the second point, that the doctrine of consumer's sovereignty assumes that maximum satisfaction is achieved only by the unfettered freedom of consumers to choose what they want, some of the exceptions to it are well established since the early days of Political Economy. Consumers' preferences may be over-ruled on political, moral, or aesthetic grounds. The doctrine, however, can be more seriously challenged on the ground that consumers may not know what is best for them. Veblen(4) would have said that much of our expenditure is spent on what he calls "conspicuous consumption". It serves as a means of repute, to show our pecuniarity to many people. Under the simple test of effectiveness, goods consumed must be wasteful, since only then they become a sign of leisure and opulence. Soon, a standard of "decency" is set, and as soon as it is reached, it becomes a point of departure for a new move in advance in the same direction, for there is no merit in spiritless conformity to a standard of dissipation that is lived up to as a matter of course. This type of consumption is more prevalent in town than in the country, where more accurate information about one's wealth can be more immediately obtained, and it increases where the human contact of the individual is largest/

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(4) "The theory of the leisure class" p. 87 et suite.

largest and mobility of population is greatest, and where movement from class to class is easier. His test for "wasteful consumption" is whether or not consumption serves directly to enhance human life as a whole; as he puts it, whether or not it furthers the life process - whatever that may be. More modern writers take the welfare analysis to task for its assumption that the individual's preferences depend only on the amount of goods he consumes and not on the amounts consumed by others.(5) Thus Professor Meade recognises four categories of external economies and diseconomies of consumption.(6)

It is not easy to take up this line of thought without invoking the difficult question of the role of Reason in Society, and to a large extent it can be more conveniently dealt with, and the problems raised automatically solved, under the aspect of Distribution to which we now turn.

The Doctrine of Maximum Satisfaction leads, by a well known demonstration which need not be repeated here, to the proposition that, to the extent that this does not lead to a reduction in its size(7) the aggregate income of the community should be equally distributed. The validity of this proposition has been questioned, particularly by Professor Robbins, on the ground that that it unscientifically assumes the possibility of making/

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(5) Cf. Paul Samuels on: "Foundations of Economic Analysis" p. 224.

(6) Meade: "Mr. Lerner on the Economics of Control" E.J. 1945.

(7) The applications of this proviso to the conditions of underdeveloped countries will be made in chapter V.

making interpersonal comparisons of utilities, but it does not require utility comparison between any two particular individuals. For suppose we transfer income from a rich man to a poor man. If both persons had the same capacity for satisfaction from any given income, the equalization of income would equate their marginal utilities. Given the diminishing marginal utility of income, this will maximize total satisfaction. If the poor man has a greater capacity, the gain is increased on that account. If the rich man has the greater capacity, the gain is diminished on that account (and it may or may not be turned into a loss). Ths possibility of an increase in gain offsets the possibility of the diminution of gain since they are equally likely to occur in any particular case, and taking a large number of cases, we are left with the certainty of gain, which is seen by itself in the case of two individuals of equal capacities.(8)

But apart from the question of distribution, it is difficult to see what relevance economic theory can have to the problems with which it is generally expected to deal if we abstain from interpersonal comparisons. It can, of course, have the significance derived from the definition of its nature as the "science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."(9) But this significance/

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(8) This is a slightly modified version of a proof given by Professor Lerner in his "Economics of control" p. 29. For a similar argument, Cf. L.G. Melville: Economic Welfare (Note) E.J. 1939.

(9) L.Robbins: "Nature and Significance". p. 16.

significance seems to be much more restricted than is suggested by Professor Robbins. It would, of course, tell us that the price of pork fluctuates with variations in supply and demand.(10) It would not tell us whether it is desirable or not to impose a protective tarrif on wheat designed to safeguard food supply against the danger of war.(11) Neither would an economic theory based explicitly on the value judgment that satisfaction should be maximized, since the latter does not exclude this norm being over-ruled by other considerations, whether political, ethical or aesthetic. But it would not tell us that such a measure is uneconomical in the sense that it imposes obstacles to the achievement of the end of safeguarding the conditions under which individual demands, as reflected in the price system, are satisfied as far as possible under given conditions,(12) since this end does not enter into the definition of "economic", while the alternative theory would, since it includes this end in its conditions for the attainment of the optimum. But even if we assume - as Professor Robbins generally does throughout his essay - that it does which entails making a value judgment about the nature of the ends to be satisfied, it does not tell us that protection imposes obstacles in the fulfilment of this end, if we are barred from making interpersonal comparisons of utility, since the tariff which brings losses to consumers of wheat also brings gains to producers, who are at the same time consumers, and/

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(10) op. cit. 148.

(11) op. cit. p. 146.

(12) op. cit. 145-6.

and there is no method of striking a balance between the losses and the gains. It would tell us it is impossible to achieve at once stable prices and stable exchanges.(13) In this sense it would enable us to maintain consistency of achievement.(14) But it would not tell us except of the immediate implications(15) of choice. If the ends are tangible and their number finite it would enable us to select a system of ends which are mutually consistent and to choose with full awareness of the implication of choice, but if the ends are ultimate, and their number is infinite, it would neither help us to achieve this consistency - since these ends are not readily translatable into the terms of theory, nor make us aware of the implications of choice, since these ends cannot be related to each other.(16)

IV. We must now refer to two great limitations which the equilibrium method of analysis sets on the applicability of the welfare conclusions derived from modern economic theory.

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(13) op. cit. 134.

(14) see op. cit. footnote p. 152.

(15) compare op. cit. 152.

(16) compare op. cit. 147.
It is very difficult to give any definite meaning to the usual optimum conditions of production and exchange except on the assumption of equal marginal utility of income. Cf. for example R. Kahn: "Some Notes on Ideal Output" E.T. March 1935 P:2 "our discussion will be conducted as though income were equally distributed" Cf. also: Harrod: "Scope and Method of Economics" E.J. Sept. 1938 p.397 "If the incomparability of utility to different individuals is strictly pressed, not only are prescriptions of the Welfare school ruled out, but all prescriptions whatever. The economist as an advisor is completely stultified and unless his speculations be regarded as of paramount aesthetic value, he had better be suppressed completely"/

completely".

Professor Fraser maintains that the argument against interpersonal comparisons is "silly", in a special technical sense of the word, "Economic Language and Thought" p.88 while Mr. I.G.D. Little argues that "those who refuse to believe that one compare other minds must deny their existence". "A Critique of Welfare Economics" p. 57.

There is, however, a new school of thought which, following Pareto in rejecting the cardinal aspect of utility and in declaring unscientific all interpersonal comparisons, claims to have established, without the help of these analytical tools, a new welfare economics which has a right to be considered "as an integral part of economic theory, capable of the same logical precision and the same significant elaboration as its brother, Positive Economics", Cf. J.R. Hicks: The "Foundations of Welfare Economics", E.J. 1939. p.712. Also by the same writer: "Rehabilitation of Consumers' Surplus", R.E.S., 1941, "Consumers' Surplus and Index Numbers", R.E.S. 1942, "The four Consumers' Surpluses "R.E.S. 1943; N. Kaldor" Welfare Economics and Interpersonal Comparisons of Utility", E.J. Sep. 1939; T. de Scitovsky, "A note on Welfare Propositions in Economics" R.E.S., 1941, "A Reconsideration of the Theory of Tarrifs" R.E.S., 1942. For a critical opinion Cf. Baumol: "community Indifference" R.E.S. 1946-7 and N. Kaldor's reply: "A comment", ebid.

The appearance of Mr. Little's "Critique of Welfare Economics" in May 1950, which have shown much better than I could have done the unjustifiability of this claim, have made it possible to discard ~~a tedious~~ and argumentative examination of this line of thought, and it should be enough to refer to this work. It must be made clear, however, that Mr. Little's position on other matters than this particular issue is totally different from that maintained in the text. While he rejects the utilitarian calculus, here, though recognising the value judgment implied, it is made the basis of the study.

1. Economic Welfare depends on two things; the relative abundance of factors of production, and the efficiency with which these factors are utilised. Partly because the former problem ceased to be a major pre-occupation of Western economies, partly because of the complete victory of the subjective theory of value, and to a very great extent because the supply of factors is not susceptible to the discipline of the equilibrium method, the importance of the amount of factors to the welfare of the community tended gradually to be pushed to the background, and the economic problem came to be exclusively regarded as one of allocating given resources to different alternatives in accordance with consumers' preferences.(17) Yet the adequate solution of the first problem may be as much a test of efficiency of an economic system as the latter. Some factors/

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(17) See the works metnioned in the previous footnote, and also in footnote 2 to chapter V. This is the logical outcome of the formulation of the economic problem as that of Choice, which has reduced the meaning of an increase in welfare of an individual to a movement to a "chosen position". Cf. I.Little, op. cit., Chapter III. Professor Pigou's case for discriminating in taxation in favour of savings (Economics of Welfare" pp. 24-5) is an outstanding exception to this tendency - and have earned the necessary criticism of the purists of subjective welfare analysis, (see Hayek, "Utility Analysis and Interest" E.J.1936,p. 49). We have to go back to Marshall or earlier still, to the classical economists for an adequate presentation of the economic problem as that of man against nature (for a full discussion of the economic problem as it presented itself to the classists cf: H. ~~in~~ Myint "Theories of Welfare Economics" Part I). Those modern writers who occupy themselves now with the problems of long-term factor supply find greater inspiration in Classical writings than in contemporary writings (Cf. R. Harrod: "Towards a dynamic Economics' p.16 and B.S. Keirstead:" The Theory of Economic Change "Chapter IV), though their pre-occupation is with the level of employment rather than that of income, and indeed much of what will follow in this work owes more to Ricardo than to any other writer - except perhaps Malthus.

factors, such as natural resources and technical knowledge are necessarily given for purposes of policy as well as of theory. Population and capital are not in the same category. Policy cannot affect population supply directly, but it may effect it indirectly, through the rate of capital formation, and if this rate, as determined by individual preferences falls short of the rate which induces favourable population adjustments, there may be a case for interference with these preferences.

2. The second limitation relates to the general presumption that positions of competitive equilibrium are optimum positions. It can best be seen by considering anexample of the way the equilibrium technique is used.

To determine the price of a consumption good, we need to know its demand and supply schedules. To get these, definite assumptions have to be made about the prices of other consumption goods and of all factors of production, that is, about all the other things which would be considered as the <u>determinates</u> of the system, if we take the system as a whole. Now it is true that to every set of values for these other determinates, we have a corresponding determinate exchange value for the good in question, but can we have a determinate value for <u>all</u> these things simultaneously without either havingto resort systems of equations or arguing in a circle?

The usefulness of simultaneous equations is mainly of a precautionary nature, to ensure that we have not left out of the system factors which are relevant to the determination of its values or included in it more than is sufficient for this determination. As an explanation of how the system/

system works, they are not of much help, if only because they are timeless and assume instantaneous adjustments(18) whereas time is of the essenceof the economic problem, both as a value in itself, deriving its importance from the finiteness of human life, and from the rythmical nature of human wants, and as a container within which economic events happen and sequence is accordingly of the utmost importance for any attempt to make them intelligible. As for their literary equivalents: general equilibrium analysis, so-called, the demonstration that positions of equilibrium are optimum positions does not follow - when we keep in mind the elements left out of account in simultaneous equation systems - from the abstract formulation of the general conditions of equilibrium, but from the demonstration of the way these positions are reached by particular firms and particular industries, i.e. by particular equilibrium analysis.

When we turn to this latter method, a careful examination of how it is used - especially in the less heroically abstract text-books - will show that, though much curvology may be used, no circularity is involved, because what is really explained is not the simultaneous values of the determinates of the system, but changes in their values due to changes in their determinants or in certain given factors. This is no defect, for no actual situation/

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(18) This does not apply to the new type of "dynamic" equations evolved by Mr. Hicks and Professor Samuelson, but the welfare significance of these new developments have yet to be worked out.

situation can ever be explained in its totality analytically; all we can hope for is to explain the forces acting on a given situation. Moreover, this is inherent in the definition of economic laws as "tendencies", which, rightly interpreted, implies change and movement and not "static approximation". This limits the explanatory power of theory, for it means that theory can explain only changes, not the things which change. It can tell us why the price of a commodity has fallen or risen, not why it is what it is.(19)

The most important application of this limitation, for the purposes of this study, is in the sphere of technical knowledge. The demonstration that market forces will lead to an optimal adjustment to any given change does not mean that if two changes of the same kind or two different kinds of change occur simultaneously, market forces will lead to an optimal adjustment. This needs a special demonstration. When possible changes in/

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(19) This does not mean that the system is chaotic; for indeterminateness simply means the insufficiency of our analytical apparatus to cover all the relevant data which in reality determine a situation. As such it is a reflection on the ability of this apparatus to cope with a complicated reality, not on reality itself. This, I think, has usually been implicitly understood, but had it been so explicitly formulated, less effort might have been made to force determinateness on situations which because of the limitations of theory, are indeterminate in the above sense, or to argue backwards from positions of equilibrium or stability to conclusions about the forces which bring about this equilibrium or stability.

in technique are spaced in time, or when they occur simultaneously but their effects are difficult to foresee, or when a change in technique affects different sectors of the economy in different ways and yet its effects are difficult to foresee, as was the case in countries which were always adapting themselves to the latest changes, this limitation is not likely to be of great importance. But for countries which are faced with a vast store of inter-related technical knowledge awaiting for application, there is no a priori demonstration that if each entrepreneur tried to apply the possibilities of technique within his immediate field of vision, a total optimum will be reached.

The implications of these two limitations will be developed separately, the first in chapter III on the optimum supply of capital and population, and the second in chapter V on the optimum distribution of resources. The full utilization of resources will be considered in a middle chapter.

CHAPTER III.

SOME NOTES ON OPTIMUM RATE OF CAPITAL ACCUMULATION AND OPTIMUM POPULATION.

I. The Meaning of the Optimum Rate of Capital Accumulation as Illustrated by the Case of an Isolated Individual.

Neither for the community, nor for an isolated individual, are there economic ends and non-economic ends. Economic theory, however, for pragmatic reasons, traditionally concerns itself with those ends which can be satisfied through exchange. In the case of an isolated individual there is no exchange, hence we cannot differentiate between economic and non-economic ends or activities. For the sake of simplicity, however, we will assume that a certain commodity corresponds to what an individual in an exchange economy would buy with his income and that the amount of effort he is willing to spend on obtaining this commodity is constant, say 10 hours work of standard intensity, whatever the productivity of an hour's "work" may be. Since there is only one commodity to produce, his natural resources will not enter into his calculations of alternatives and hence will have no economic significance, and work accordingly will be the only "input" he uses in the process of production. In the ten hours, he produces ten units of the commodity, at the rate of one unit per hour.

Suppose now that one day it dawns on him that if he builds a certain equipment, which would take him 30 hours labour of standard intensity to build, he will be able to produce, with the help of this equipment, and allowing for its maintenance, 2 units of the commodity per hour. We

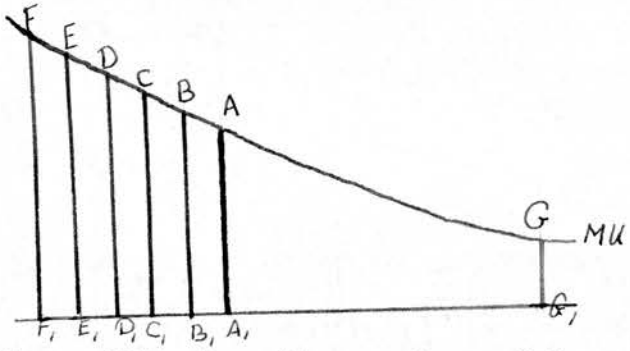
assume also that he expects to live so long that there is no doubt that it will pay him to make the equipment. His problem is how to divide his input (the ten hours work) between immediate consumption and equipment making in the most rational way i.e., so as to maximise through time the total utility he derives from these ten hours.

Let us call the amount he currently consumes of the commodity x, his income. If the marginal utility of different amounts of x were the same he would maximise his utility through time if he works 10 hours a day on making the equipment from the moment the idea occurs to him. Since marginal utility cannot be assumed to be constant, and, moreover, since we assume that it is necessary for him to consume a certain amount of this commodity every day in order to maintain his life and vigour, we infer that he will divide his ten hours between production for immediate consumption and production for increase in future consumption, that is, equipment making or capital formation. During the period of capital formation, he will arrange his consumption of this commodity so as to equate the marginal utilities he derives from consuming it in all days of the period. Given the regularity of the daily rhythm of his want for it, this he will do by consuming the same amount every day of the period. It remains to be known how many units of his total input he will use every day in production for direct consumption and how many for making equipment.

It is enough to know the shape of his marginal utility curve to solve his problem. Suppose that the MU curve in diagram 1 represents that section of his marginal utility curve beyond the minimum necessary to maintain his efficiency, the areas AB_1, BC_1, etc. being the utilities of the 10th unit, 9th unit etc., five being the minimum number he consumes per day. AG_1 is the additional utility per day he gains from the

increase in the number of units he will be able to produce after making the equipment.

Figure 1.



Column I below will show the number of hours he works per day on equipment making, column II the corresponding sacrifice in utility during the period of equipment making, and column III the gain in utility after it has been made. Thus, since the equipment takes him thirty hours to make, he will sacrifice AB_1 for 30 days and gains AG_1 for the rest of his life if he devotes 1 hour per day to equipment making, while if he devotes 2 hours per day, he will sacrifice AC_1 (which is more than double AB_1) for 15 days and gains, since he will finish making the equipment 15 days earlier than before, AG_1 for the same period ss before plus AG_1 for 15 days.

Column I	Column II	Column III
1.	$AB_1 \times 30$	$AG_1 \times$ the number of days he lives after 30 days.
2.	$AC_1 \times 15$	" + $AG_1 \times 15$
3.	$AD_1 \times 10$	" + $AG_1 \times 20$
4.	$AE_1 \times 7.5$	" + $AG_1 \times 22.5$
5.	$AF_1 \times 6$	" + $AG_1 \times 24$.

The rate which maximises the difference between his gain and his loss will be the optimum rate of capital formation.

This can be generalised and mathematically solved.

Let a be the number of hours he works per day,

n_o the number of units per hour he produces before making any equipment.

n the number of units per hour he produces with the help of the equipment.

T the total number of hours it takes him to make the equipment.

x the number of hours he works every day on making it.

Then $\frac{T}{x}$ will be the number of days he will work on making the capital equipment.

Define F(y) = the total utility of the number of units he consumes per day.

In each day $(a-x)n_o$ units are produced and consumed during the capital formation period. Hence the utility from them is $\frac{T}{x}F(n_o\overline{a-x})$.

$(B-\frac{T}{x})$ is the number of days he lives after finishing the equipment, where B is the number of days he lives from the instant he starts making it. After finishing it, he produces na units each day, hence $(B-\frac{T}{x})F(na)$ = his total utility after making it.

Call U the total utility during his whole life, i.e. the sum we want to maximise.

$$\therefore U = (B-\tfrac{T}{x})F(na) + \tfrac{T}{x}F(n_o\overline{a-x})$$
$$= \tfrac{T}{x}(- F(na) + F(n_o\overline{a-x})) + \text{constant.}$$

at the maximum,

$$\frac{dU}{dx} = \tfrac{T}{x^2}F(na) - \tfrac{T}{x^2}F(n_o\overline{a-x}) - n_o\tfrac{T}{x}F'(n_o\overline{a-x}) = 0$$

and the roots of this equation in x give the rate of capital formation which will maximise his utility through time.

Assume now that instead of having only one size of capital equipment,

he can choose between different sizes, (size here is defined in terms of the number of hours necessary to make it), with different degrees of increase in productivity. There will be one size which will maximise the amount he produces per hour (allowing for maintenance) and there is no doubt that, given an indefinite length of time, he will make that particular size, sometime in the future. The question is whether he will proceed directly to make this optimum size, or whether he will make first an intermediate size or sizes, each of which is larger than the preceding one, until he reaches the optimum size.

If we assume that he consumes a constant amount during the whole period of capital formation, i.e. until he builds the optimum size, his choice will depend solely on the productivity of varying sizes. If the increase in his productivity (i.e. in the number of units he produces per hour) is very great at the initial sizes, he will reach the optimum size much quicker if he makes first a small-size equipment with the help of which he produces the units he currently consumes, for he will thus be able to devote a greater amount of his time to capital formation. This however, is not the only reason why capital formation by steps may be preferable. In the case of one size capital equipment considered before, the amount he consumed was assumed to be constant during the whole period of capital formation because - in addition to the regularity of wants - an hour's work, whether used for production for current consumption or for production for future consumption, had a constant value in terms of its physical product throughout the whole period of capital formation. An hour's work meant either one unit of the commodity or 1/30th of the equipment throughout. This is not the case when there is a possibility of making intermediate sizes, for the product of an

hour's work, in terms of consumption units, changes with the step reached in capital formation, and it may be that he would maximise his satisfaction through time if, making intermediate sizes, he would raise his consumption at each successive step. He will be more likely to reach the optimum by steps and raise the level of his consumption at each successive step, the greater is the slope of his marginal utility curve and the smaller is the slope of the curve which traces the relation between the size of the equipment and the number of units per hour he produces with its help. To find the conditions under which he would proceed by steps, the number of steps and the rate of capital formation at each step would require a mathematical technique which is beyond the reach of the present student.(1) An interesting conclusion, however, could be reached by simpler methods.

Adopting the previous notation, and assuming that he takes a number of steps m, then the number of units n_r, he produces with the help of a given equipment (of the size T_r), will be determined by the capital productivity function, and we have,

$$U = \sum_{r=1}^{m} \frac{T_r}{\overline{x}_r}\left\{F(n_{r-1}\overline{a-x_r}) - F(n_m a)\right\} + \text{constant}$$

$$\therefore \quad \frac{\partial U}{\partial x_r} = -\frac{T_r}{\overline{x}_r}\left\{F(n_{r-1}\overline{a-x_r}) - F(n_m)\right\} - \frac{T_r}{\overline{x}_r} n_{r-1} F'(n_{r-1}\overline{a-x_r})$$

For a minimum equate the right hand side with 0.

whence $F(n_{r-1}\overline{a-x_r}) - F(n_m) + n_{r-1}x_r F'(n_{r-1}\overline{a-x_r}) = 0$

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(1) It can be shown, however, that given the number of steps he takes, the size of each successive equipment, the amount of work he gives to capital formation during each period, and the number of units he consumes during that period, can all be determined.

differentiating both sides with respect to n_{r-1} we get

$$F'(n_{r-1}\overline{a-x}_r)\left\{-n_{r-1}\frac{dx_r}{dn_{r-1}} + \overline{a-x}_r\right\} + n_{r-1}\frac{dx_r}{dn_{r-1}}F'(n_{r-1}\overline{a-x}_r)$$

$$+ x_r F'(n_{r-1}\overline{a-x}_r) + n_{r-1}xF'(n_{r-1}\overline{a-x}_r)\left\{-n_{r-1}\frac{dx_r}{dn_{r-1}} + \overline{a-x}_r\right\} = 0$$

hence $$\frac{dx_r}{dn_{r-1}} = \frac{aF'(n_{r-1}\overline{a-x}_r) + n_{r-1}x_r\overline{a-x}_r\, F''(n_{r-1}\overline{a-x}_r)}{n^2_{r-1}\overline{a-x}_r\, F''(n_{r-1}\overline{a-x}_r)}$$

Putting $n_{r-1}\overline{a-x}_r = y_r$, we can put this equation in the form

$$\frac{dx_r}{dn_{r-1}} = \frac{aF'(y_r) + x_r y_r F''(y_r)}{n_{r-1}\, y_r\, F''(y_r)} = \frac{aF'(y_r)}{F''(y_r)} + x_r y_r$$

$$= \frac{\frac{aF'(y_r)}{y_r F''(y_r)} + x_r}{n_{r-1}}$$

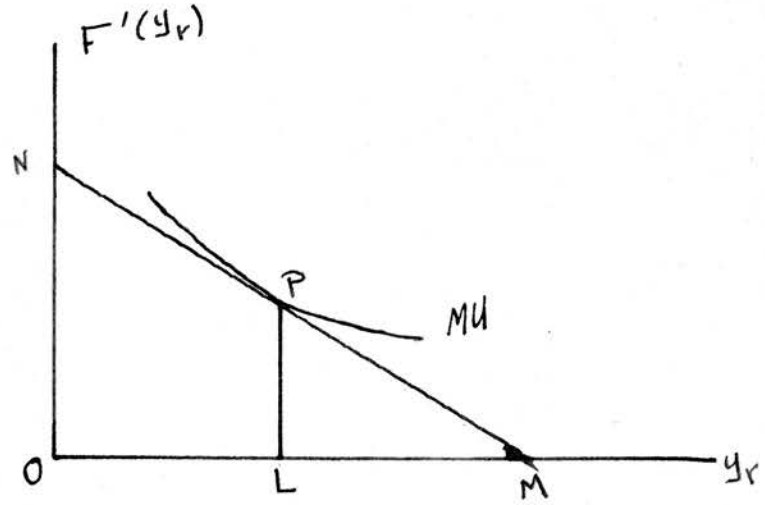

Figure 2.

from diagram 2:

$$\frac{F'(y_r)}{F''(y_r)} = \frac{PL}{-\frac{PL}{LM}} = -\overline{LM}$$

therefore, $$\frac{dx_r}{dn_{r-1}} = \frac{-a\frac{LO}{LM} + x_r}{n_{r-1}}$$

Following Professor R.G.D. Allen's notation,(1) the elasticity (η) of a

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(1) cf, "Mathmetical Analysis for Economists," P. 251

function

$y = f(x)$ at the point x is $\frac{Ey}{Ex} = \frac{x}{y}\frac{dy}{dx}$.

In our case elasticity $= \frac{OL}{PL} \times - \frac{PL}{LM} = - \frac{OL}{LM}$

Putting thus $\eta = \frac{OL}{LM}$,

$$\frac{dx_r}{dn_{r-1}} = \frac{-\eta(y_r) + \frac{x_r}{a}}{n_{r-1}/a}$$

since n_{r-1} is always positive,

$\frac{dx_r}{dn_{r-1}}$ will be positive when $\eta(y_r) < \frac{x_r}{a}$

" " $= o$ " " $= \frac{x_r}{a}$

" " negative " " $> \frac{x_r}{a}$

and since n_{r-1} is increasing from one step to another, then in the first case x_r (that part of his total input he devotes to capital formation) will be increasing from one step to another; in the second it will be stationery and in the third it will be decreasing. It follows that, computing the elasticity of the MU curve we can say that at the zones for which the elasticity of the marginal utility of income is less than $\frac{x_r}{a}$, the rate of capital formation will be increasing from one step to another, where $\eta = \frac{x_r}{a}$, it will be constant, and for the zone where it is bigger than $\frac{x_r}{a}$ it will be decreasing.

It is very difficult to evaluate the elasticity of the marginal utility of income, even under the most heroic of simplifying assumptions. Mr Harrod assumes that it is likely to be between 0 and 1(1)

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(1) (Towards a Dynamic Economics" p. 51)

and even proposes an ingeneous scheme for measuring it empirically.(1) His method, however, is open to serious objections(2) and we are left in the dark about it. In our use of it, however, we always compare it with $\frac{X_r}{a}$. This is the ratio of input used for capital formation to total input and on any realistic account, is likely to be a small fraction. On the other hand, an elasticity of the marginal utility of income with the value of a small fraction means that the marginal utility of income is declining very quickly, which seems to be contrary to immediate experience, and it may thus not be unplausible to suppose that the latter will always be greater than the former, with the result that as our individual moves from one step to another and thus rises from one income level to a higher one, the rate of capital formation - if he is to maximise utility through time - will slow down.

That the optimum rate of capital formation will be diminishing is confirmed - as we shall see in a moment - by another line of approach. The main point from the above model, however, is to illustrate the nature of capital formation. But before turning to this we may refer to F. Ramsay's treatment of the same problem, in his well-known article "A Mathematical Theory of Saving".(3)

Mr Ramsay, also thinking in terms of a moving optimum, that is, a rate which maximises utility through time, sets out to find how much of its income a nation should save. He assumes a community which goes on living forever, without changing in number, in its capacity for enjoyments, or in its aversions to labour; that enjoyments and sacrifices at different times can be calculated independently, and that there is no autonomous

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(1) op. cit. 43-44.

(2) c.f. J. De V. Graff: "Mr Harrod on Lump Saving", Economica February 1950 p. 86.

(3) Economic Journal, December 1928.

change in technical knowledge. Particularly, he assumes no time-preference - "a practice which is ethically indefencible and arises merely from the weakness of the imagination". He also neglects the differences between different kinds of goods and different kinds of labour, and supposes them to be expressed in terms of fixed standards, so that we can speak simply of quantities of capital, consumption and labour without discussing their particular forms (P. 543). Lastly, he assumes that the community will be governed by the same motives as regards accumulation, so that there is no chance of our savings being selfishly consumed by another generation. In short, he assumes a community of immortals similar in all respects to our isolated individual.

He then shows that:

$$\frac{dc}{dt} = \frac{B - [U(x) - V(a)]}{u(x)},$$

where $\frac{dc}{dt}$ is the rate of saving (which he identifies with the rate of capital formation). B is the maximum obtainable rate of enjoyment (i.e. the rate of enjoyment when capital reaches a final optimum size, which he calls Bliss), U(x) the rate of total utility of consumption actually enjoyed and u(x) its marginal rate, and V(a) the total disutility of labour, i.e. he shows that the optimum amount will be saved when the rate of saving multiplied by the marginal utility of a unit of present consumption is equal to the excess of one year's satisfaction when capital equipment is of the (final) optimum size minus the one year's satisfaction at present standards.(1) He also shows that, like what has been called above the optimum rate of capital formation, this rate is altogether independent of the production function, except in so far as this determines Bliss.

Professor R.G.D. Allen, in a modified version of Mr Ramsay's model,

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(1) P. 546.

shows that, if an optimum rate of saving is followed, capital would increase at a decreasing rate until it becomes stationary at the optimum.(1) His conclusion, however, applies to the rate at which the amount of capital goods increase, while the conclusion derived from the isolated individual model refers to the rate at which input is diverted for capital formation rather than used for immediate consumption. Both conclusions contradict the often assumed, though never rigorously proved, view that as countries grow richer, they will be able to afford to divert more of their resources to capital formation, and should do so, and no doubt the unrealistic assumptions of immortality in the models here considered has much to do with this. For, with mortals, we cannot balance the gains of a succeeding generation against the losses of a future one. It would serve some purpose, however, particularly since we will argue that there may be a case for over-riding the preferences of one generation in the interest of another, to see if the above conclusions rest on more solid grounds than mathematical deduction.

During the earlier steps of capital formation, because capital productivity rises at the earlier steps at a greater rate than at later steps, a given amount of input, though, due to the psychological law of diminishing marginal utility of income, it means a greater current sacrifice, also means a greater future gain in terms of physical and psychological units than at a later stage. For example, if our individual reaches the optimum by three steps, in period 1 making a small size equipment which would increase his productivity from one unit per hour to 4, in period 2 using this equipment for current consumption and making at the same time medium-size equipment which would increase it to 6, and in period 3 using it for current consumption and making the optimum which would increase it

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(1) "Mathematical Analysis for Economists" P. 540.

still to 7, then a seventh hour's work if applied to production for immediate consumption will produce for him one (physical) unit in the first period, 4 in the second, 6 in the third and 7 after reaching the optimum, while had the same hour been applied to capital formation (in which case it would be the fourth hour, considering that he has only 10 hours to divide between current consumption and equipment making), it would yield him an increase in productivity equal to 4 units per hour during the second period, to 6 units (i.e. the increase is at a decreased rate) during the third, and to 7 units for the rest of his life, so that we may expect him, for example, if he devotes only six hours to current consumption, thus giving up the utility of the 7th to 10th units and gaining 3 more units for every hour he works for current consumption during the second period, to devote seven hours to current consumption in the second period, thus giving up the utility of the 29th to the 40th units and gaining 2 extra units for every hour he works for immediate consumption during the third period, rather than devote only six hours of immediate consumption, giving up the utility of the 25th to 40th units.

II. Capital Formation For A Community.

Before stepping from the case of an isolated immortal to a mortal community, we must refer to two essential differences:

(i) In the case of an individual all sacrifices and all satisfactions are referred to one single unit. This applies also to the process of calculation itself. For a community, the sacrifices may refer to one group of people and the benefits to another. Moreover, the calculations of the savers may be in terms different from those used by those who utilise the sacrifices to increase future production. In the Ramsey-Allen model, the question is solved along traditional lines, with the rate of interest representing at one and the same time the marginal disutility of saving and the marginal productivity of capital. It will be argued in Chapter 5 that the rate of interest has no exact sense in either capacity, and the discussion will be continued in terms of satisfactions derived from different amounts of income at different points of time. This will bring out more immediately the nature of capital formation as a process of diverting resources from production for current satisfaction to production for future increased satisfaction. For this we assume a community of like minded individuals similarly situated, and interested only in organizing production so as to maximise satisfaction through time.(1)

(ii) We cannot balance the satisfactions of one generation against those of another. Here again the question is not solved by any known method of analysis and in order to isolate, in this section, the more important aspects of the process of capital formation, the simplest way

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(1) We may assume here that the community is either run by an omniscient dictator or composed of omniscient individuals. The first assumption was made by Hayek ("The Pure Theory of Capital", chapters XII to XVII.) "This assumption allows us to investigate the influence of the technological data in their simplest form, without having to take account of the differences in aims of a multiplicity of persons and the effects of a different distribution of resources between them." Hayek op. cit. p. 155. It also enables us to abstract completely from the complications of organization.

out is to assume with Ramsey that it is immaterial from the point of view of any one generation whether the increase in satisfaction from a given sacrifice accrues to it or to a future generation.

We turn now to other differences which interest us here. For the isolated individual, the diversion of resources from production for immediate consumption to capital formation means dividing his time between the two occupations, with no change in productivity per hour, as the number of hours worked in each occupation changes - an hour spent on current consumption, with the help of any given equipment, will always yield the same number of units of product, whether he devotes six, seven or eight hours to current consumption. For a community, it means diverting a man from one activity to another, and the productivity of the man in either activity will depend on the number of men employed in it. To put it in another way, the productivity per man of any given capital equipment will not - in normal cases - solely depend on the size of the capital equipment, as the productivity per hour did in the case of the individual, but also on the number of men employed on it. Since this can be allowed for in drawing up the capital productivity function - the function which represents the relation between the size of any equipment and the productivity per man, it does not alter our calculations about the rate of capital formation. But it would affect the <u>method</u> of capital formation, for, whereas the individual would maximise his total utility through time by reaching the optimum size gradually through sub-optimum sizes, the community may reach it, not by gradually increasing the size of sub-optimum equipment units with which all those who produce for current consumption work, but by gradually increasing the <u>number</u> of optimum capital equipment units.

There is also another major difference. In the case of the isolated

individual, we may assume, as a first approach, that the productivity of the input used for capital formation is not affected at each stage by what happened at the previous stage, e.g. 30 hours labour on equipment making would always produce an equipment of a given productivity, irrespective of the shape or size of the equipment of the previous period. All the periods of the process of capital formation were related to each other through the utility and the capital productivity functions, but not through the productivity of equipment-making labour in different periods. When we come to the case of a community, this assumption could no longer be maintained, for, whether an equipment of a given productivity will take, say, 30 days or more in the second period, will normally depend on the arrangements made for producing the equipment of the first period. These in their turn have to be related to plans for the next period, and so on. All the elements of the process of capital formation, up to the final optimum, have to be determined together, as one set. There is no available technique, in current economic theory, which would take account of this. The equilibrium analysis partly subsumes it under the heading of external economies, but, it will be argued in chapter 5, it does not adequately solve the problem and we may well keep its importance in mind.

The complication referred to in the previous paragraph is not likely to alter our conclusion about the rate of capital formation. If anything, it is likely to substantiate it, for the increase in productivity resulting from capital formation in any given period will accrue not only to the succeeding period, as was the case with the isolated individual, but also, through its effect on the facilities for producing future capital equipment, to all the succeeding periods.

The rate of capital accumulation, however, is only a side line. It

was not the main purpose from constructing the above model, for the inference as to the application of the conclusion drawn about it to the real world is not conclusive: too much was left out of account. The main object was to stress some aspects of capital formation which are not immediately apparent from the usual methods of analysis. In this respect there is no difference between capital formation for an isolated individual and for a community. These aspects can be summarised as follows:

1. Capital formation is essentially a process of diverting resources from production for current consumption to production for increased future consumption.(1)

2. The sacrifice from any given act of capital formation is temporary whereas the benefit is permanent.(2)

3. In calculating the optimum rate of capital formation and in deciding the method, account must be taken of the whole process, i.e. until the final optimum is reached.

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(1) Because we assumed that income was composed of one commodity, the only resource which needed to be taken into account was labour. When many commodities are introduced, the services of land acquire a scarcity value and enter into our calculations. This, however, does not affect the analysis of the nature of the process of capital formation.

(2) Had this been immediately apparent from the traditional analysis of the theory of capital, P. Schumpeter's thesis (Theory of Economic Development) that in a stationary community the rate of interest is bound to reach zero would have gained more acceptance. The objection to the explanation of interest which is permanent, as a reward for saving, which is a single act, would have also gained more force. The realization of this underlies Keynes' theory of diminishing marginal efficiency of capital and the theories of secular stagnation which stemmed from it, all of which explaining unemployment by the refusal of the rate of interest to fall continuously. Cf. Chapter IV. p. 1.

III. Optimum Population.

The concept of optimum population, as well as its counterparts: over - and under - population, is one of those highly significant (from a welfare point of view) concepts which, as we shall see in the following section, do not gain in clarity by applying to them the equilibrium technique, and is best approached by analysing in general terms the relation between the population factor and economic welfare.

Two aspects may be distinguished:

i. The relation between the size of population and economic welfare.

ii. The relation between changes in the size of population and economic welfare.

(I) As to the first aspect, two opposing forces are here at work; the law of diminishing returns from natural resources and the law of increasing returns from organization - both these laws used in their wider, classical, sense. The way in which each of them affects economic welfare is well-known, but two points may be emphasised here.

1. The fact that capital may increase man's ability to utilise existing natural resources does not mean that it raises the optimum size of population, for in determining the optimum we assume that the best known methods are fully utilised. Thus the existence of unutilised natural resources and the possibilities, for example, of land reclamation, irrigation schemes, etc., do not mean that there is no over-population.

2. The same thing applies to changes in technical knowledge, except in so far as an increased number of people may be necessary to take full advantage of the change.

It is impossible to determine theoretically whether, according to the two laws referred to above, any particular country is over populated or not.

Comparison of natural resources in relation to population in different countries and the corresponding levels of income - vague as such comparison necessarily must be - may give an indication, and by this standard there is no doubt that the old-established low-income countries with which we are concerned are over-populated.

(II) Any doubt left about this is removed when we remember that, in practice, the question is not one of comparing two absolute sizes, each maintained indefinitely until the best known methods are utilised, but of increase from one size to another. To secure a given rise of income at a certain point of time in the future by the application of better methods of production will ~~always~~ ~~mean~~ involve a greater sacrifice - since this application will normally take the form of capital formation - incurred by each generation, if population is <u>continuously</u> increasing. It may be that if population increases and then becomes stationary, the stationary population will be able better to utilise its opportunities. Since the populations in which we are interested are likely to be continuously increasing during that period in the future for which it is profitable to generalise, we may neglect the possibility - and it is very remote - of gain which may accrue to them, when they become stationary, from having larger numbers.

The generalisation about an increase in sacrifice resulting from population increase is not absolute: much depends on the way the population increase affects the average age of the population. If the increase accrues from a reduction in the <u>specific-age</u> death rates, there <u>may</u> be an increase in the average age of population, the extent of this increase depending on the rate of reduction and on the ages affected, particularly since if it affects mainly the reproductive ages, this reduction will lead

to an increase in the total brith-rate, even though the specific-age birth-rates may not change, and this will partly offset the increase in the average age of the population. If the increase in population occurs through an increase in the specific-age birth-rates - as may well happen if temporary prosperity leads to a reduction in the death-rates - it will lead to a reduction in the average age of population.

Accordingly

(1) An increase in population due to the first cause, if it is not accompanied by an increase in the specific-age birth-rates, may or may not be an obstacle to maintaining the standard of living or to raising it, according to its secondary effect on the total birth rate.

(2) It is almost certain to facilitate both if it is accompanied by a decrease in the specific-age birth-rates.

(3) An increase due to the second cause is certain to be an obstacle to both.

In all this we have abstracted from the effect of the law of decreasing returns from natural resources. If it is true that, for the countries with which we are concerned, the point has been reached where any further gains from specialisation etc., made possible by a larger size of population are offset by diminishing returns from natural resources, and it is probably true, the size of possible gain from an increase in population will be reduced in case (1), the certainty of gain will be reduced to a probability and the size of the gain will also be reduced in case (2), and the size of the loss will be increased in case (3).

It may seem paradoxical to say that an increase in population due to a reduction in death rates leads to a reduction in the standard of living or puts an obstacle to its raising, but we refer here, not to the generation

in which the increase occurred, but to the following generation. Moreover, it is possible, with the achievements of medical science, to reduce the death-rate at the expense of the standard of living. The increase in numbers which would otherwise have been abortive is thus given a lease of life, at the cost of an increasingly lower standard.

It follows from the above considerations that -

(1) if it is accepted that the State should have an interest in future generations equal to its interest in the present generation, (2) if population increase is likely to be of the kind which defeats itself or raises greater obstacles for future generations, (3) and if the optimum rate of capital formation is not likely to increase the national income at a rate greater than the rate of population increase.

If these three conditions are fulfilled, and they are all very big ifs, there is a presumption for capital formation at a rate greater than the optimum rate, the latter understood in the sense defined above.

The first condition undoubtedly entails some interference with the individual's preferences and interests. It implies even the possibility of deliberately sacrificing present lives - by preferring forms of capital accumulation which lead to a rise in income at a certain point in the future, so steep that it would overtake population increase and bring about that level where it would react on the birth rate, to other forms which would lead to an immediate reduction in the death-rates - for the sake of saving future lives. How far this is Totalitarianism will be discussed in a concluding chapter, but the necessity of choice and clarity about the meaning of the alternatives must not be obscured by altogether evading the issue.

The theoretical clarity of the first condition is not matched by a

similar clarity in the other two, which refer to the course of future events. It is not at all easy to determine what would be the effect on the form of population increase of an immediate rise in the standard of living due to capital accumulation. Much will depend on the form of capital accumulation. It is probable that, if this form is left to a very great extent to individual preferences, the increase in the average age of population due to a reduction in the death rate will be offset by a decrease due to an increase in the total birth-rate, even though specific-age birth-rate may not rise, with the result of an abnormal age distribution similar to that which obtained in Victorian England. Those under-developed countries which experience now a "swarming period" corresponding to that of early and middle nineteenth-century England already have a population in which the ratio of the under-fifteens to the total population is similar to that of the English swarming period and in some of them it is much higher.(1)

Because the choice referred to in the previous paragraph is a choice between two very great evils, there is a presumption for the State interfering with the form of the rise in the standard of living, to the extent that this interference may alter the form of population increase. A conspicuous example is education. We do not refer here merely to propaganda for and the spreading of knowledge of birth control. To the extent that people are influenced towards birth control by irrational motives - we must remember, however, that it is not a very great extent -

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(1) Compare the table in page 62 in the Report of the Economics Committee (Papers of the Royal Commission on Population), London, 1950, where figures are given for the age distribution of the population of England and Wales, 1841-1944, with table 104, page 318 of the United Nations: "Survey of Asia and the Far East, 1949", where figures for the present age distribution in that region are given. While in England the figure for the dependants under 15 never rose beyond 36.5% of total population and was considerably smaller over the whole period, it shows an average of about 40% for the latter region. Figures for old-age dependants are not easy to compare. In England the over 65 rose continuously from 4.4% in 1841 to 10% in 1944, while in Asia the over 60 are around 5%.

general education, perhaps with special stress on education in the social sciences, should be carried beyond the point determined by economic considerations alone,(1) particularly in the higher stages of education, since, in addition to the fact that probably only at these stages can education instil in the individual some rationality of behaviour, such education will also raise the age of marriage. The force of this argument will be increased if we remember the gain from the dissimination of the habit of late marriage, by the power of example, through the less educated classes of society. Another, though less certain, example is that of infant mortality. The preservation of human life is an end in itself, and to the extent that, even after a redistribution of wealth, in the manner and subject to the qualification set forth in the previous chapter, parents may spend less of their income than is necessary for preserving the life of their infants, there is a case, on ethical grounds, for state interference with private expenditure so as to secure that more is spent for this purpose than private individuals are willing to do. But apart from this, if it is accepted that a large number of children are desired partly as an insurance against total loss, public expenditure to reduce infant mortality may be a less wasteful method of achieving the same ~~object~~ purpose and at the same time a means of reducing the birth-rate. A third example is that of old-age pensions. To the extent that a large number of children is desired as a provision for old age, direct pensions may lead to a reduction in the birth-rate.

The third condition refers to the rate of rise in national income in

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(1) State encouragement of education has for long been advocated by economists on cultural and economic grounds. Professor Meade, "Economic Analysis and Policy" pp. 214 et suite, treats it as a question of investment in which the wealthier groups of the community has a monopoly, and argues in detail that the best use of resources will be achieved if the marginal return on capital invested in education is equal to its return elsewhere. The point here is that there is a case for investing in education beyond this point.

relation to the rate of population increase. Here again there is no available exact method - theoretical or practical - of knowing the rate of rise in income which would correspond to the optimum rate of capital formation. Much will also depend on the future course of international trade and of international investment, both of which were left out of account in the previous discussion. The same difficulty arises with regard to the probable rate of population increase, though rough guess work - while more difficult for under-developed than for other countries - has a much more solid basis than in the case of income.

Because of these difficulties, great care must be taken before applying conclusions drawn from the above analysis to policy in any particular country. They do not, however, deprive it of all use, for the recognition of the existence of the problem must be the starting point of all rational policy, and it is hoped that future research would throw much more light on it, both theoretically and from the point of view of the applicability of the second and third conditions to any particular country.

IV. Optimum rate of Capital Formation and Optimum Population.

In considering the optimum population we have already related it to optimum capital formation. This was done in two ways.

1. By considering the effect of the rate of capital formation on changes in the size of population we have studied the reaction of changes in one factor on the optimum supply of the other.

2. Focusing attention on changes in the size of population, rather than on absolute size, the effect of changes in population on the rate of capital formation was made an integral part of the optimum theory of population. This was done by the rather crude method of concentrating on the effect of changes in the size of population on its age-composition, for a very young population means a greater percentage of dependents and hence a slower rate of capital formation, as compared with the optimum rate had population been stationary.

This way of relating the two concepts is somewhat unsystematic, but it is the only way which would make them relevant to welfare theorising. Policy - and welfare theory must always be subservient to the possibilities of policy - can affect the size of population only indirectly, through the reactions of numbers to the rate and form of capital formation, whereas it can affect the latter directly. Accordingly, an optimum theory of capital formation is needed only to set a standard by which the effects of changes in population on economic welfare can be studied. For this, we study capital formation on the assumption of a stationary population. But when we take into consideration the effect of population on economic welfare, the optimum rate of capital formation becomes the rate which induces optimum changes in population size.

The usefulness of this precedure can perhaps best be seen against the

background of the current theory of optimum population. This was first precisely formulated by Cannan in his "Elementary Political Economy". "At any time," he wrote in 1888 "The amount of labour which can be exerted on a given extent of land, consistently with the attainment of the greatest productiveness of industry at that time is definite. Assuming (what within short periods is almost exactly true) that the total amount of labour exerted on a given territory increases or diminishes, we may word the law thus - at any given time the population which can exist on a given extent of land, consistently with the attainment of the greatest productiveness of industry possible at that time, is definite"(1) (italics mine). From the context, prefacing the statement of the law with the words "at any given time" is meant to exclude changes in technique, but it is not clear what are the assumptions made about capital. Professor Robbins, however, elaborating on Cannan's theory and contrasting it with earlier views on the subject, stresses the static nature of the theory, particularly with regards to capital. "Among the assumptions enclosed in that ceteris paribus" he writes, "is the assumption that the amount of capital remains constant."(2) But, if by a constant amount of capital is meant a constant amount of previous sacrifice - whatever this may mean - then we have to assume that in utilizing this sacrifice it is best adapted to the size of population, and productivity per head in this case is bound to be smaller for a greater population, while if it means a constant amount of physical aids to production - the same number and sizes of dock-yards, railway lines

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(1) P. 25. The Theory was first formally stated by Sidgwick, (Principles, Pp. 150-1) but not so precisely. Cannan's statement of "the law of population" was later developed into a theory of optimum population in his ~~the~~ "Wealth". On the history and implications of the theory, cf. L. Robbins "The optimum Theory of Population" published in the "London Essays in Economics", ed. D~~r~~. H. Dalton, 1927.

(2) L. Robbins: op. cit., p. 121.

etc. - the relation between the size of population and natural resources, and to throw light on this relation is the purpose of an optimum theory of population, is obscured, since the productivity of the population will depend as much on the existing amount of capital as on the natural resources. If the effect of capital is to be impounded in the ceteris paribus so as to isolate this relation, the statement must refer, not to a population whose size is "instantaneously varied"(1) but, as argued above, to different sizes which are maintained stationary in number for such long periods that the final optimum capital equipment should be has been made, and the comparison made between the two sizes at this optimum. Directly the theory is so stated, it will be seen that it has little relevance, for no country has reached this state of bliss, and for the purpose of this study, the underdeveloped countries are so far removed from it as to make the effect of change in the size of population on the rate of capital formation the dominant aspect of the problem.

The effect of population on employment was not discussed in this chapter because we abstracted completely from different forms of organisation and "in the last analysis, unemployment of every type is a problem of organisation."(2) In the following two chapters, we consider the relation between organisation and development, first from the point of view of the full utilisation of resources, that is, full employment, then from that of the optimum distribution of resources among different alternatives.

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(1) ibid, p. 107. In the third edition of Wealth, 1928, Cannan, in deference to various criticisms of his previous formulations explains that ".... what we have to look for is not the best population at any particular moment of time without reference to what has gone before and what is to follow after, but the best at all moments taken together." This explanation is based on the fact that technique changes and population does not actually vary instantaneously. It is not related to the supply of capital. (See op. cit., pp. 59-61)

(2) Report of the Economics Committee, Papers of the Royal Commission on Population, p. 47.

CHAPTER IV.

FULL EMPLOYMENT IN DEVELOPING ECONOMIES.

Classical economic theory did not, on the whole, claim to have established a rigorous demonstration that a free enterprise economy would automatically secure full employment.(1) Lord Keynes specific contribution was to demonstrate that, far from there being a presumption that full employment is the normal state of such an economy, it is normal - in the sense that it is compatible with a position of stable equilibrium - for it not to secure this objective. His Theory, however, is essentially static,(2) and there is a growing acceptance now, among those who devote special attention to the subject, of a corresponding dynamic or secular theory of "stagnation" or "economic maturity" or "increasing under-employment".(3) The essence of the theory/

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(1) Cf. D.H. Macgregor: "Economic Thought and Policy", 1949. pp. 111-126.

(2) Cf. Keynes: "The General Theory ..." p. 245 and R. Harrod "Towards Dynamic Economics": p. 10.

(3) This theory is particularly advocated by Professor Alvin A. Hansen in his "Full Recovery or stagnation" (1938), "Economic Progress and declining Population Growth" (American Economic Review, March 1939, reprinted in "Readings in Business Cycles Theory"), "Fiscal policy and Business Cycles" (1941) and "Full Employment" (1947) and was further developed - among others - by Professor A. Sweezy: in "Secular Stagnation" (in "Post War Economic Problems" 1943), "Declining Investment Opportunities" (in "The New Economics", 1948) in "The Doctrine of Economic Maturity" (in American Economic Review, March 1946);*"Concepts and Criteria of Secular Stagnation" (in Essays in Honour of A.H. Hansen" 1949) and "The Theory of Increasing Under-Employment" in Economic Journal, July 1950, and B.S. Keirstead in "The Theory of Economic Change" (1948), and arrived at independently by Mr. R.H. Harrod in "Towards Dynamic Economics" (1948). For a dissident view of J. Schumpeter: "Capitalism, Socialism and Democracy" and D. McC. Wright "The prospects for Capitalism" (in "A Survey of Contemporary Economics", H.S. Ellis.)

* B. Higgins;

theory, which is a development of the Keynsian system of thought, is that as the economy progresses and income per head rises, it becomes increasingly difficult to maintain full employment. In both theories, under-employment follows from these economies having a rate of investment less than that which would secure full employment. They have a special relevance to our subject (4) in that, if it proves difficult or undesirable to maintain full employment by reducing the rate of interest, increasing consumption, or increasing investment within the highly developed economies, external investment in under-developed countries may be a means of securing this end. This will be considered in chapter ~~eight~~VII. In this chapter we consider, assuming a closed system, the prospects of maintaining a high level of activity in these latter countries under a free enterprise system. In this, we lose much of the help derived from the modern theoretical models, since they assume an economy different in fundamental ways from the economies with which we are concerned.

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(4) Because of this, it may not be out of place to devote a lengthy footnote to the main elements of this Dynamic Theory. Its novelty lies in giving a general theoretical interpretation, in terms of long term trends, of the progressive incapacity of the capitalist system to provide full employment. Based on the Keynsian analytical scheme, and proceeding from the general premise that aggregate income is determined by the three independent variables: the propensity to consume the marginal efficiency of capital and the rate of interest, it sets out to explain that, within the context of the dynamic factors, these variables develop in such a way that full employment becomes more and more difficult to attain. It is not an analysis of the cycle, (though the cycle may be an integral part of some individual formulations), it is an analysis of long term trend. No necessary assumption is made about the trend of the national income or of the marginal propensity to consume. It only demonstrates that as the economy matures, the trend of realized national income diverges more and more from the trend of potential - or full employment - National income, hence it is compatible with an upward trend in the former (cf. Keirstead, op. cit. figure 4, p. 146 and Higgins: "The Theory of Increasing Under-Employment" Economic Journal, July 1950 p.255,

footnote 2). It is sufficient for the purposes of this theory that the Marginal propensity to consume be less than unity. It is essentially an analysis of the demand for investment in the long period. The increasing deficiency in this demand in the long run are attributed to the decline in the rate of population increase and the passing over of the geographical frontier. To counter-balance the effect of these two factors on the rate of investment, a rate of technical change greater than ever before would be required. The possibility of this is discounted on three grounds.

1. the disappearance of great technical innovations - an admittedly weak argument.

2. the capital-saving nature of these innovations.

3. their self-financing nature, through corporations' resort to the accounting device of allowing for technical obsolesence in calculating amortization funds.

These elements in the situation enter in various combinations in different individual formulations. Thus while they all appear in Professor Hansen's formulatiom, Professor Kierstead drops the concept of the frontier and introduces the factor of increasing monopoly. Mr. Harrod also does not make use of the frontier concepts - he assumes constant returns from land - and assumes that technical inventions will be neutral as between capital and labour-saving.

The predominent activity in underdeveloped countries is agriculture and it is pursued, on the whole, in a non-capitalistic way, in the sense that the ownership of the means of production is not divorced from the function of actually using them.(5) This vital for the theory of employment, since the location of ownership affects the stability of the amount of work done at different prices for the product.(6) For a non-capitalist producer - that is, an owner of the means of production - in an exchange economy, the amount of work done would be determined by the intensity of his desire for the various products obtainable by exchanging the product of his work for them, the disutility of work to him, the effectiveness of his work and the terms on which he exchanges his product for other people's product. In a capitalist industry, the level of activity, which is controlled by the capitalist owner, is not determined by these four determinants, but by the principle of equating marginal revenue with marginal cost. The first two determinants thus disappear and are replaced by another: the terms on which owners of fixed capital can get the other factors of production to collaborate with them. This difference affects the reaction of producers to the trade cycle. "In a general recession, as the output of others declines, their demand for any individual capitalist's output in terms of goods decline too. Obeying the principle of equating marginal cost to marginal revenue, he restricts his activity; by so doing he may reduce his marginal cost, and more commonly/

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(5) In this paragraph we follow Mr. Harrod's analysis in his "Trade Cycle", Chapter 1.

(6) Actually it is the location of control over activity and the scale of output which matters. Hence this analysis applies to lease-hold as well as to peasant farming.

commonly, raise his marginal revenue. But the non-capitalist producer sees the reduction of demand as a reduction in the power of his labour to acquire the goods he wants by exchange. It is analogous to a weakening in his own power to produce, and if the inverse relation between the power of work and the level of work is correct, he will increase his activity. This explains why, in depressions, agricultural outputs have been obstinately maintained and prices have fallen out of all proportion. This tendency is aggravated by the comparative lack of mobility from one branch of agriculture to another or from agriculture in general."(7)

Another notable feature of these economies is the absence of widely used systems of credit. Savings, when they are not embodied in money hoards, are invested in buying land. Because of population pressure, land is bound to be always in great demand, and rent is continuously increasing. Two things follow from this: land is a very liquid asset to which savings are canalised (8) and returns from it also govern the rate of interest, for the latter cannot be lower than the rate which equates the capitalised/

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(7) Cf. Harrod, op. cit. pp. 32-33.

(8) Cf. Keynes: "The General Theory..." " It may be that in certain historic environments the possession of land has been characterised by a high liquidity -premium in the minds of owners of wealth; and since land resembles money in that its elasticities of production and substitution may be very low, it is conceivable that there have been occasions in history in which the desire to hold land has played the same role in keeping up the rate of interest at too high a level which money has played in recent times. It is difficult to trace this influence quantitatively owing to the absence of a forward price for land in terms of itself which is strictly comparable with the rate of interest on a money debt. We have, however, something which has, at times, been closely analogous, in the shape of high rates of interest on Mortgages". p. 241. Compare, however, with the following footnote.

capitalised value of rent with the price of land as determined by supply and demand for it.(9) Whether individual savings are embodied in money-hoards or are used for buying land they do not lead to any real saving on the part of the community, since in these two forms they are not balanced by investment. This however, does not mean that these savings are "wasted". For the community as a whole, there is no reduction in aggregate consumption, money-hoarding leads merely to a reduction in prices while investment in land means only the transfer of purchasing power from one/

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(9). This is the exact reverse of the accepted theory of capitalization. According to this theory, the value of an existent asset is the discounted sum of the series of its future yields. The rate of discount - the current rate of interest - is determined independently by the disutility of saving and the marginal productivity of capital according to one school of thought, and the liquidity preference and the quantity of money according to another. In the text it is maintained that it is the rent of land which determines the rate of interest. Rent is an independent variable, determined by the pressure of population in land. The price of land is another independent variable, determined by its supply, which is fixed, and the demand for it which is, for these communities, the same thing as the supply of saving, in the ex-ante pre-"General Theory" sense. Between them they determine the rate of interest - that rate of discount which equates the series of future rents with the price of land. It follows that for any given amount of savings, the greater the size of the population the higher the rate of interest will be. It is extraordinary that some writers who still adhere to the Ricardian concept of rent (Ricardo who had no specific theory of interest did not have to face this dilemma and Marshall was too careful to fall in the trap) would at the same time use the above theory of capitalization in explaining land values. The two things are incompatible and perhaps, more than anything else this is why the Ricardian concept of rent has fallen out of favour in modern formulations of the general equilibrium. This however may be excused by the fact that rent - in the Ricardian sense - has become such an unimportant fact in the economic life of modern communities and land itself a neglible outlet for savings that the incompatibility may be overlooked. "The division of the determinants of the economic system into the two groups of given factors and independent variables is, of course, quite arbitrary from any absolute standpoint. The division must be made entirely on the basis of experience, so as to correspond on the one hand to the factors in which the changes seem to be so slow or so little relevant as to have only a small and comparatively negligible short-term influence/

influence on our quaesitum; and on the other hand to those factors in which the changes are found in practice to exercise a dominant influence on our quaesitum." (Keynes "The General theory", p. 272 cf. Also supra chapter III p. 2.) For under-developed countries, which has no history of great individual investments in capital assets other than land, where holders of wealth, in general, are not accustomed, for many reasons, to relate their savings to the rate of interest which could be earned on these other assets (this, however, in some countries is rapidly changing) and where land, having an elasticity of substitution and of supply equal to zero, ~~land~~ is the main receptacle of savings and at the same time has a dominant part in the economy, rent must be considered, together with the supply of savings, the determinant of the rate of interest. For this reason great care must be taken in applying modern economic theory - macro-economic theory even more than micro-economic theory - to the economies of these countries.

If this is accepted, the high rates of interest on mortgage referred to by Lord Keynes in the quotation in the previous footnote must be explained, not by a high liquidity-premium, but by the fact that the appreciation in the yield of land - as population pressure increases - is anticipated. This indeed - it may be remarked in passing - is not the only instance in which inference from "The General Theory" analysis to other economies than those for which it was especially designed, does not seem to be particularly happy. The Ancient Egyptians did not need to build pyramids to stimulate employment; their economy - admittedly a sad reflection on planning - was centrally planned! Nor did the Middle-Agers, for that matter, whose economy was predominantly agricultural, need to build Cathedrals.

one set of people to another.(10) The high rates of interest which obtain in these countries can be explained partly by high liquidity-preference and partly by the (comparatively) high rent from land. The first cause can be dealt with by expansionary monetary policy but the latter is likely to become more difficult to overcome as popula tion increases.

The high rate of interest sets a limit on investment, but because of the agricultural nature of the economy, it does not affect employment.

The question, however, is not that of maintaining a high level of activity in these economies as they are, but of the prospect of its maintenance during the process of industrialization. Both from static and dynamic analysis, it would seem at first while that under-developed countries would have much less difficulty in maintaining full employment during the process of transition than fully developed countries. Thus we find in the General Theory: ".. the richer the community, the wider will tend to be the gap between its actual and its potential production; a poor community will be prone to consume by far the greatest part of its output, so that a very modest measure of investment will be sufficient to provide full employment; whereas a wealthy community will have to discover much ampler opportunities for investment if the saving propensities of its wealthier/

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(10). For this reason the margin for investment which some writers on development (see for example: Industrialization and Foreign Trade: League of Nations Publication 1945) infer to exist from the "hoarding of treasure" is an illusionary margin, unless these treasures are used to obtain foreign exchange. Also the often-stated phrase "in underdeveloped countties land is a bottomless sink for savings" must be interpreted only in the light of the previous footnote.

wealthier members are to be compatible with the employment of its poorer members. ... But worse still. Not only is the marginal propensity to consume weaker in a wealthy community, but, owing to its accumulation of capital being already larger, the opportunities for further investment are less attractive unless the rate of interest falls at a sufficiently rapid rate.(11) As for the dynamic setting, population is bound to be increasing, perhaps - initially at least - at an increasing rate, and this is generally held to facilitate employment.

The reasoning with which Keynes relates the remarks quoted above to his theoretical model is this "... the greater the marginal propensity to consume, the greater the disturbance to employment corresponding to a given change in investment. This might seem to lead to the paradoxical conclusion that a poor community in which saving is a very small proportion of income will be more subject to violent fluctuations than a wealthy community where saving is a larger proportion of income and the multiplier consequently smaller. This conclusion, however, would overlook the distinction between the effects of the marginal propensity to consume and those of the average propensity to consume. For whilst a high marginal propensity to consume involves a larger proportionate effect from a given percentage change in investment, the absolute effect will, nevertheless, be small if the average propensity to consume is also high. ... Thus whilst the multiplier is larger in a poor community, the effect on employment of fluctuations in investment will be much greater in a wealthy community/

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(11). "The General Theory..." p. 31, Italics Keynes.

community, assuming that in the latter current investment represents a much larger proportion of current output".(12)

This may also be supported by the fact that, in agriculture, fluctuations in demand do not very much affect aggregate output - a reduction in demand may even increase it, so that, if agriculture is a large sector of the economy, fluctuations in investment are not likely to affect very much the size of the aggregate income. If, however they lead to violent fluctuations in prices, or if these fluctuations are caused by any extraneous cause , such as the agricultural cycle itself, their effect on employment in the industrial sector may be altogether out of proportion to their effect on aggregate real income, since output in industry is governed by money demand. Also, because, at the level of income obtaining in under-developed countries, industrial products are, comparatively, in the nature of semi-luxury goods, fluctuations in aggregate real income due to causes other than fluctuations in investment will affect more heavily the demand for industrial output and hence employment in it. Great fluctuations in employment would not, however, at least in the initial stages, be due to reasons inherent in the industrial process itself, and the difficulties of securing full employment would be much less than they are for high-income countries.

It is when we turn to dynamic factors, particularly the increase in population, that doubts of another kind begin to arise. Mr. Harrod(13) in/

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12. op. cit., p. 125-6

13. "Towards Dynamic Economics".

in a model specially constructed to study whether there is any natural tendency for the community's propensity to save to adapt itself to the rate of capital accumulation required by the two fundamental conditions which, in his opinion, govern growth: population and technical change[14] has shown that, where the rate of actual growth (G) is rapid (because population growth is rapid) there will be a chronic tendency for (G) to exceed what he calls "warranted" rate of growth (G_w), and consequently a chronic tendency for required capital accumulation (C_r) to exceed actual capital accumulation (C) since G_w C_r and GC are both, by definition, equal to(s),the average propensity to save. This situation leads to a chronic inflationary gap, in contrast with slowly maturing economies, where G_w will tend to exceed G and C will tend to exceed C_r and a chronic deflationary gap will appear.[15] Thus when thriftness is deficient, the "warranted"/

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(14) Op. cit. p. 22 et suite.

(15) Mr. Harrod distinguishes between G, G_w and G_r, and between C and C_r G. is the increment of total production in any unit period of time expressed as a fraction of total production, that is, it is the actual rate of income growth. G_w is the increment which leaves entrepreneurs satisfied with doing what they are doing and continuing to do the same, and G_r is the rate of growth in income which the fundamental conditions - population growth and technical improvement - allow#. C is the increase in capital outstanding at the end of any given period over that outstanding at the beginning of the period divided by the increment of production in that same period, that is, the actual rate of capital increase. C_r is the rate of capital increase required by G_w. s is the fraction of income saved. GC = s by definition; the equation G_wC_r = s expresses the equilibrium of steady advance. By relating these two equations to each other he ~~will~~ is be able to see whether the actual rate of growth within the framework of the fundamental conditions whose requirements are related to the above two equations by the third equation G_rC_r = or ≠ s, is compatible or not with full employment. Cf. op. cit. lecture three.

"warranted" rate of capital accumulation is less than the rate required by steady progress with full employment. The actual rate of accumulation will therefore pursue a cyclical course, and over a long period, the actual rate of accumulation is held in check by the fact that the full capacity rate of saving, yields a rate of increase in the stock of capital less than the required rate.(15A) From this Mrs. Robinson(16) draws the conclusion that, since (if population is increasing) the stock of capital will be growing more slowly than the available labour, while the amount of employment associated with a given stock of capital is continually falling as technical progress takes place, there will be a progressive increase in unemployment. This unemployment, she points out, is not susceptible to Keynsian remedies, for, if the level of effective demand were boosted up, for example, by public investment schemes, the demand for consumption goods will be raised above the capacity output of existing plant, and an inflationary rise in prices would set in.

Because of the speculative nature of the new "dynamic analysis" one must not dogmatise about inferences drawn from it. That the above conclusion may not be unplausible, however, may be seen from a more pedestrian approach to the question. "What is there about additional people that makes them a stimulus to investment and indirectly to general business activity and employment rather than a problem for the relief administration" We may apply the four ways in which Professor A.R. Sweezy(17) answers this question/

(15A) Cf. op. cit. lectures three and four.
(16) "Mr. Harrod's Dynamics", Economic Journal, Mar. 1949. p.818.
(17) A.R. Sweezy: "Population Growth and Investment Opportunity." Quarterly Journal of Economics LV, 1940, p. 65 et suite.

question to the particular circumstances in under-developed countries.

(1) through its effect on aggregate demand. It is usually argued that population increase, by increasing the number of dependents, will increase the marginal propensity to consume. Whether this is true or not for high-income countries may be open to question - it depends, anyway, on changes in the rate of increase, not on the increase itself - but it does not apply to low income countries, where, among those sections of the community which - by their sheer size - would provide a very great proportion of the increase, the marginal propensity to consume is almost equal to unity.

(2) Through its effect on the composition of demand. It is claimed that a growing population directs a relatively large proportion of its expenditure towards goods and services which require heavy investment for their production; the usual examples being housing and agricultural produce. This argument again is only relative to high income-level countries; at the levels obtaining in under-developed countries, it is unlikely that increase in numbers, by itself, will lead to much more than re-sharing of the same amount of food and housing room: there is no great margin to transfer. Moreover, housing there is not of the type which needs much investment, and any favourable effect on investment from the transference of expenditure to food will probably be more than outbalanced by transference of income to the land-lord class, whose marginal propensity to consume is probably lower than the marginal p. to c. for the whole population, and in so far as this class does not have a lower marginal propensity to consume - it is difficult to form an opinion about this - the transferred income/

income, in view of the well known very unequal distribution of land property in these countries, will be spent on luxury goods and services. This would have a multiplier effect on industrial activity in general, but probably less than had there been no income transference.

(3) Through its effect on the supply of labour. An increased labour supply would raise the marginal productivity of capital relatively to that of labour and hence encourage investment. The condition for this to happen, however, is that foodstuffs and raw materials are in completely elastic supply,(18) which is far from likely in under-developed countries.

(4) As an essential part of certain broader phenomena which vitally affect investment. Population increase would be a contributing factor to the maintenance of an atmosphere of optimism, vigour and buoyancy in the economy, but only if the economy is, for other reasons, expanding and the standard of level rising. Moreover, this effect takes place because of the resultant change in the average-age of the population. Where population is already young, the effect of this factor may be totally discounted.

We may conclude therefore, that, in view of the population pressure, there/

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(18) op. cit. p.72. This is a restatement in modern terms of the Ricardian theory - an essentially dynamic one - that as accumulation increases and raises the market rate of wages, population would increase at a rate which keeps wages steady at the subsistence level. Accordingly, the share of labour in the marginal product would rise, the amount of real wages remaining constant, hence the real profit per unit of capital would fall. Cf. Harrod: Towards A Dynamic Economics" p. 16.

there is no greater guarantee that private enterprise alone would be able to secure a high level of activity than there is for fully developed countries, though, because there is no large sector already industrialized, this would take the form of a depressing effect on potential new investment rather than that of unemployment.(19)

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(19) A more conclusive result would perhaps be reached by approaching the question in accordance with footnote eight. As population increases the rate of interest, as determined by rent and the supply of savings, would also rise and this would have a depressing effect on investment. A systematic development of this line of thought would have required a restatement of the modern theory of Aggregates to suit the conditions of underdeveloped countries, a task which proved to be beyond the present student's ability. I believe however, that much advance could be made along this line.

CHAPTER V.

The Optimum Distribution of Resources in Under-developed Countries.

I. The Central question of development, as of all economics, is how far the entrepreneurial profit motive can be entrusted with the process of directing resources to their various uses. It is generally agreed that the optimum distribution of resources between their alternative uses will be achieved if the price of each commodity is equal to its marginal cost.(1) It is also agreed that the entrepreneur, in his attempt to maximize his profit, will always try to equate his marginal revenue from selling a commodity with the marginal cost of producing it and that only under perfect competition will marginal revenue from selling a commodity equal its average revenue - that is its price. It follows that the optimum distribution of resources will be achieved only if conditions of perfect competition obtain or are at least approximated. If they do not, the entrepreneurial profit motive must be either supplemented or replaced by public action in accordance with the rule of the optimum.(2)

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(1) We abstract here from divergences between marginal private cost and marginal social cost. We also assume perfect competition among factors of production. The above rule therefore becomes equivalent to Professor Pigou's rule for the optimum distribution of resources and this particular form was chosen for convenience of exposition. For various alternative formulations of the same thing cf. A.P. Lerner, "Economics of Control," Chapter 9.

(2) Much of the present chapter was influenced, beside// the standard works on the theory of value and on imperfect competition, by the great debate on the possibility of rational calculation in a planned economy. See particularly: F. Hayek: (ed.) "Collectivist economic Planning",

"Individualism and Economic Order"; M. Dobb, "Economic Theory and the Problem of a Socialist Economy" E.J. 1933, "A note on Saving and Investment in a Socialist Economy," 1939,"Soviet Economic Development since 1917" (Chapter I); H.D. Dickinson, "Price Formation in a Socialist Community" E.J. 1933, "Economics of Socialism"; E. Durbin "Economic Calculus in a Planned Economy", E.J. 1936, O. Lange, "On the Economic Theory of Socialism" R.E.S., October 1936 and February 1937. A.P. Lerner "A note on Socialist Economics" R.E.S., October 1936, "Statics and Dynamics in Socialist Economics", E.J. 1937; J.B. Hoff: "Economic Calculation in the Socialist Society". The adjustment of the presentation of the theoretical points raised in this subject to the conditions of under-developed economics makes it difficult to make more than a general acknowledgment.

It will be necessary therefore, in trying to answer the question with which this chapter was opened to find out how far competitive conditions are likely to prevail in countries undergoing development.

II. It is convenient-and customary - to start with the analysis of the entrepreneurial actions in the short run under conditions of perfect competition. In the short run, costs can be divided into two parts: fixed and variable. Fixed costs are those which have already been incurred, and therefore have no influence on the entrepreneur's out-put policy during the period of time contemplated; whether it will be worth his while to produce a given output or not will depend on the relation between his marginal variable cost and his marginal revenue, which latter, under the assumed conditions of perfect competition, is equal to price. He will maximize his profit on current out-put if that output is pushed to the point where its marginal variable cost = marginal revenue = price. The accompanying diagram (figure 3) will illustrate this.

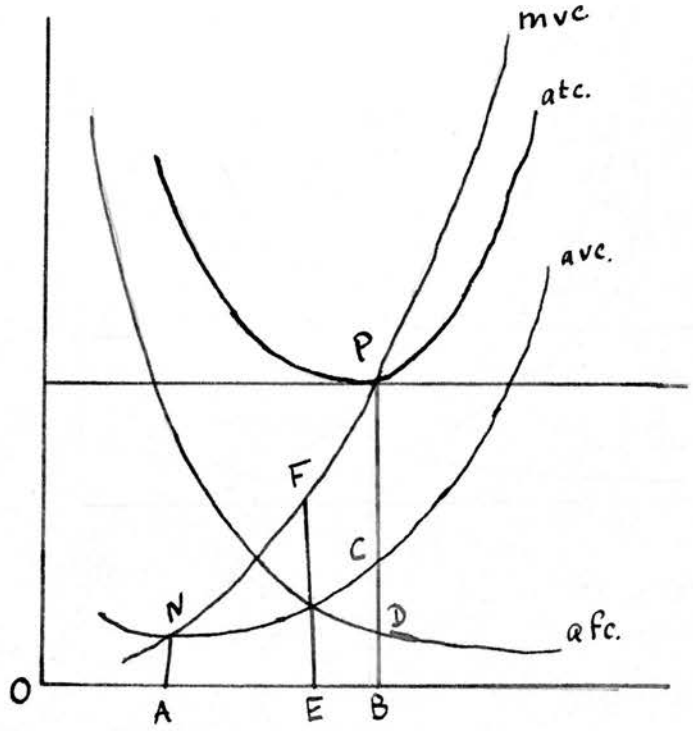

Figure 3.

Curve a f c represents his fixed cost. Since, by definition, total fixed cost is not affected by the scale of his out-put, this curve takes the form of a rectangular hyperbola, with average fixed cost decreasing as out-put increases. Curve a v c represents average variable cost. It slopes downwards, indicating/

indicating decreasing average variable costs, at the earlier stages of utilizing the fixed factor, then it turns upwards as the increasing utilization raises this cost. Curve m v c represents the marginal variable cost and is derived from a v c according to the usual rules of derivation. Curve a t c represents average total costs and is constructed by summing up for any output average fixed costs and average variable costs. Since only variable costs affect the curve marginal to the total cost curve, it follows that m v c, which is marginal to a v c, is also marginal to a t c and cuts the latter also at its minimum point. It follows that for output at which average total cost is at a minimum, marginal cost is equal to average total cost.

If the price is less than A N, the entrepreneur will not produce anything, since at this level, marginal variable cost is less than average variable cost, with the result that if he equates his marginal variable cost with price his proceeds will be less than his outlays on the variable cost factors alone, and hence he will be making a loss. If the price is at any level between A N and B P, he will produce that output which equates his marginal variable cost with price, for, though he will be making a loss - price being less than average total cost - what he earns above average variable cost will be a net gain on current account and will reduce his loss on capital account. If the price is at B P he will be making neither profit nor gain, while if it is above B P he will be making a net gain. If we include in the fixed cost "normal" earnings of entrepreneurship, then at an average price of B P there will be no inducement for the firm to leave the industry or for other/

other firms to enter it.

III. So far we have assumed the size of the fixed factor to be given. It is when we try to find out how this size is determined, while conditions of competitive equilibtium are maintained, that difficulties begin to crop up. The equilibrium size is usually illustrated by the use of a long period individual firm cost curve. To each size of fixed equipment, there corresponds an average total short run cost curve similar to the curve a t c of figure (3). If we posit a series of these curves beside each other in descending order of the size of the fixed factor to which they correspond, the minimum point on each of these curves will be lower than the minimum point on the preceding one, up to a point after which they begin to rise. The curve tangential to this series of curves is the long run cost curve for the firm, and if the variation in the size of the plant is continuous so that we have an infinite series of short run average total cost curves, the corresponding longrun cost curve will be a smooth parabola. The reason why it slopes downwards and then upwards is that over its declining range the economies of large scale production out-balance the diseconomies arising from the increasing difficulties of co-ordination, then they just balance each other, then the latter prevail.

Before further comment we must be perfectly clear about what is meant by a long-term cost curve. According to Professor Stigler(1), a "long run/

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(1) "The Theory of Price" p. 134.

"long-run average cost is defined at the lowest possible average cost of producing any output when the entrepreneur has adequate time to make all desired adjustments". This definition is almost a compressed summary of Marshall's explanation of what is meant by long-period in economic analysis. Yet though the term "adjustments" in Stigler's definition and the general drift of Marshall's explanation may suggest a curve which traces through time the average minimum cost as the firm continuously adjusts itself to new circumstances, e.g. to changes in demand or in factor prices, it could not properly be so interpreted, for then there would be no reason why it should take the usual form of a parabola. To understand the nature of this curve we must visualise a businessman, like Marshall's wool manufacturer, drawing for himself a series of hypothetical cost curves corresponding to different hypothetical sizes of fixed plants and deriving from them a hypothetical long-run average cost curve. Marshall reconciles this concept of the long-run average cost with the applications in which he uses it by creating the concept of the Representative Firm, "one which has had a fairly long life and fair success, which is managed with normal ability, and which belongs to that aggregate volume of production..."(2) This firm would have the size which would correspond to the minimum point on the long-run average cost curve, or, as he calls it, the long run individual supply curve. It does not reach it directly, it approaches it by steps, enlarging its size as it builds up trade connections and acquires greater disposal over capital, and it does not stay there, it becomes senile and declines. The/

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(2) "Principles" p. 317.

The individual normal supply curve would trace the average cost of the firm as it grows with time until it reaches the size of the representative firm. Yet it is not a historical curve, it remains a theoretical curve, with time, so to speak, as one of its dimensions.(3) Much doubt, however, has been cast on the usefulness of the concept of the Representative Firm(4) and the normal individual supply curve is now replaced by the long-run cost curve, and for welfare analysis purposes this concept is rather a hindrance than an aid. For, if individual business cannot reach the optimum size except gradually, for example because of the difficulties which entrepreneurs would find in obtaining the necessary capital, there is a case for the State seeing to it - directly or by subsidies - that this size is directly reached, since only at it are the average costs at a minimum. The natural gradual process would be a costly one from the point of view of the community. For the same reason, because integration may be a large source of economy, the concept of the firm/

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(3) I am not sure that I have rightly interpreted Marshall. He does not use an individual supply curve in his "Principles", but I think this represents the situation he ~~xxxxx~~ constructed.

(4) Cf. Robbins: "The Representative Firm" Economic Journal 1928, also "Synopsism on the Representative Firm and Increasing Returns" by G.F. Shove, P. Sraffa and D.H. Robertson, Economic Journal, 1930.

firm, for the purpose of this study, must be taken to be an economic concept and not a legal one. The long-run average cost curve would trace the relation between different sizes and the minimum average cost of the fixxx product, irrespective of whether, in the actual economy, firms are integrated or not.

The condition for the optimum distribution of resource through the action of private enterprise is that there be a number of firms of the optimum size - that is, the size which corresponds to the minimum point on the long-run average cost curve - so large that none of them will be conscious of the effect of its output policy on the price of the product.

IV. Two questions now arise:

1. Whether the optimum size is likely to be reached directly by private enterprise in under-devloped economies.

2. If it is likely to be reached, whether conditions of perfect competition would still prevail.

In actual life, the two questions are inseparable. If the optimum size is fairly small, as it is in retail trade, or rather was until the development of multiple-store organization made it much larger, and in most branches of agriculture, the private firms are likely to reach it directly and to be under competitive conditions. On the other hand, firms whose optimum size is fairly large - and it is only in co nection with these that the question arises - are likely to be in competitive conditions only if they have historically grown to it gradually. Theoretically, however, the two questions are quite distinct. The first depends on the entrepreneurs' degree of foresight, their willingness to take/

take risks, and their command over the necessary capital. The second relates to the nature of the productive process. We will deal, for the moment, only with the second question.

Whether a firm would be of optimum size and still operate under competitive conditions or not, will depend first on the largeness of this size, second on the extent of the market for its products.

1. Whether there is a limit set on the economies secured from large-scale production and integration and where this limit lies is a matter of empirical research and not of theory.

2. As to the extent of the market, it will depend on the transportability of the commodity, on its elasticity of substitution and on the level of income of the community:

a. Thus, where a commodity is not by its nature transportable, such as the services of roads between two geographical points, or where its transport involves a heavy cost, such as coal where sources of supply, which could be operated only by single or by a very limited number of firms, are widely dispersed from each other, or where, if the commodity is to be produced efficiently at all, the producer must have a local monopoly, as in public utility services, conditions of perfect competition would not obtain. We call monopolies arising from this factor geographical monopolies.

b. The elasticity of substitution for a commodity will depend on its intrinsic utility and on the ability of producers to differentiate it in the minds of consumers. The utility of producers' goods is derived from the utility of their final product, and the size of their market/

market will depend accordingly on the size of the market for the final product and on the versatility of their product.

Differentiation, whose importance is restricted to consumers' goods, will be either due to advertising or it will correspond to real benefit conferred on the consumer. In the latter case whatever monopoly profit the producer is able to obtain from differentiation will be balanced by a corresponding real service to the consumer, except in so far as the consumer may not be given the choice between the differentiated product and a cheaper standardized product which have essentially the same utility.

c. The level of income-given the above factors - will determine whether or not the demand for the commodity will be large enough to require more than one source of supply of optimum size. In general, the lower the level of income the less will be the number of sources required to satisfy the demand for any one commodity. But the level of income has also another aspect which works in an opposite direction. In a low-income country, capital will have a high marginal productivity relatively to that of labour and hence will be a scare factor relatively to labour. High rates of interest will prevail. The higher the rate of interest the less will be the optimum size of the firm, and accordingly, the smaller the total output corresponding to that size. The lowness of income-level therefore has two opposite effects. In as much as it makes the demand for any given product smaller, it leads to monopoly, and in as much as it reduces the optimum size of the firm, it enhances competition. Which of these two effects will prevail in any particular industry/

industry will depend, other things being equal, on the nature of the productive process. More specifically - the marginal analysis fails us here - it will depend on the degree of discontinuity in the long-period average cost curve and on the rate at which the average cost decreases as the size of firm increases. Thus, for example, in the steel or shipbuilding industry, where, if the production is to be efficient at all, the minimum size of the production unit has to be fairly large, or, where, as in the motor car industry, there is no continuity of scale from the ordinary methods of production to the conveyor-belt system and ~~where~~ the ratio of the efficiency of the two sizes is probably much greater than the ratio of the two sizes themselves, the force working against competition which results from the former aspect of income-level is likely to outweigh the force making for it which results from the latter aspect, in contrast, for example, with the textile industry, where there is a continuity in the graduation of the size of the firm.

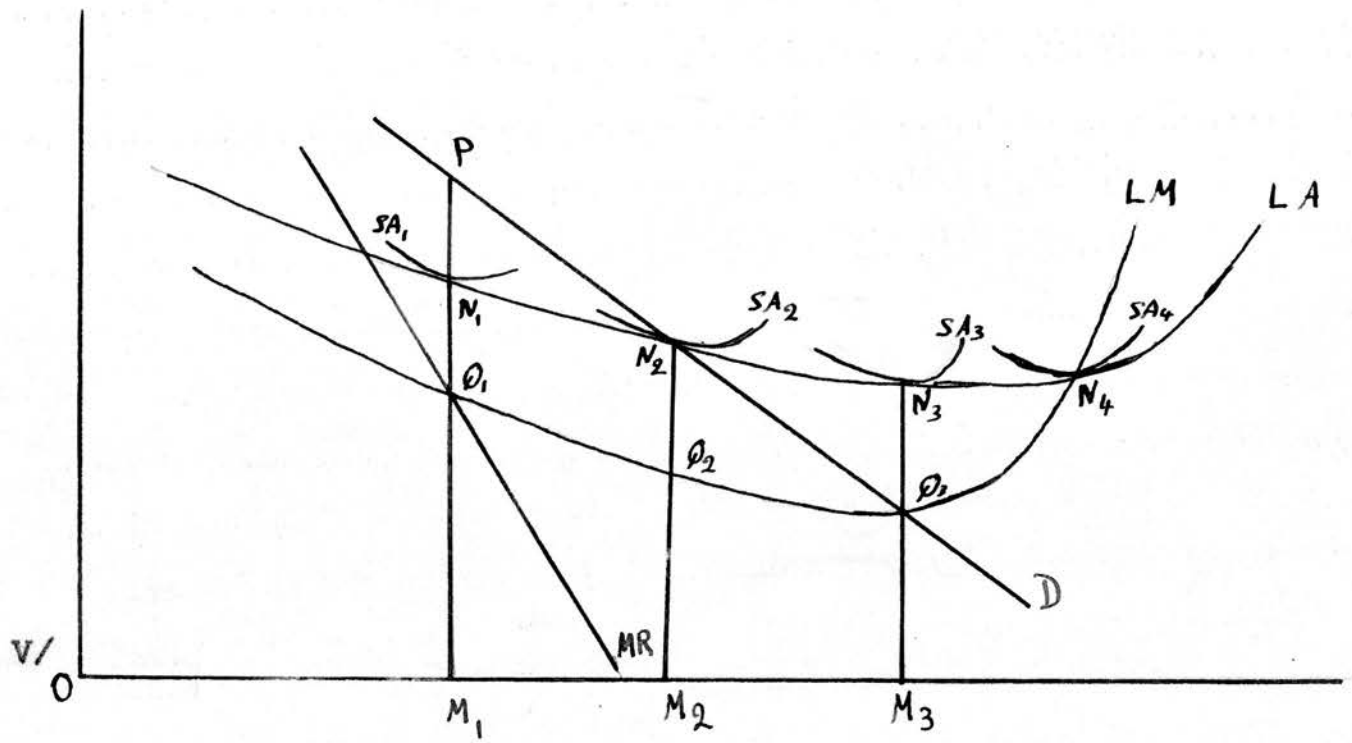

Figure 4.

V. Let us assume that the curve D in figure 4 represents the demand schedule for the product. M R is the marginal revenue curve. L A is the long-period average cost curve, L M it's long period marginal cost, S A_1, S A_2, S A_3 and S A_4 are short period total average cost curves. Since the demand curve cuts the long-run average cost curve to the left of its minimum point, one firm will be sufficient to satisfy the total demand and if this firm is run by a private monopolist, output O M_1 from a plant where size corresponds to short period average total cost curve S A_1 will be produced, since at this output - for which marginal revenue is equal to marginal cost - his monopolistic profit N P will be at a maximum. This will be a necessary outcome if the limitation of the market is geographical, in the wider sense used above.

If it is due to other causes, it is not necessary. Another entrepreneur, seeing that he can produce with normal profit at price M_2 N_2 may enter the field, establish a plant where short period average cost curve is S A_2 and outbid the monopolist. The condition for this to happen is that he himself be content with normal profits, a matter which depends on the possibilities of monopolistic profits in other sectors of the economy, on the supply of entrepreneurs, and on the supply of loanable funds for investment, and that he will resign himself to probable loss during the remainder of the life term of the plant of the first producer, since during that period it will pay the latter to sell at short-period marginal costs, if only to minimize his loss. The gain to the community from both producers selling at less than long period average cost is not a net gain, for it is the resulf of over-investment/

over-investment in this particular line, which is a waste. Bygones are not bygones if they can be avoided.

Let us maintain still the assumption that the demand curve for the product cuts the long-period average cost curve to the left of its minimum point and let us see what the optimum size of the fixed factor should be in this case. It may seem that this should be the size which corresponds to short-period average cost curve S A_2 since only at this size would average long-run cost equal average revenue, and hence neither abnormal profits nor losses are made. This, however, would be contrary to the general rule of the optimum distribution of resources, which prescribes that price should be made equal to marginal cost and not to average cost. According to this rule, O M_3, and not O M_2, should be produced, with a fixed factor size which corresponds to short-period average cost curve S A_3, the product being sold at price M_3Q_3, with a loss of Q_3N_3. That this is the optimum position can be shown by looking at it from the aspect of consumers' surplus.

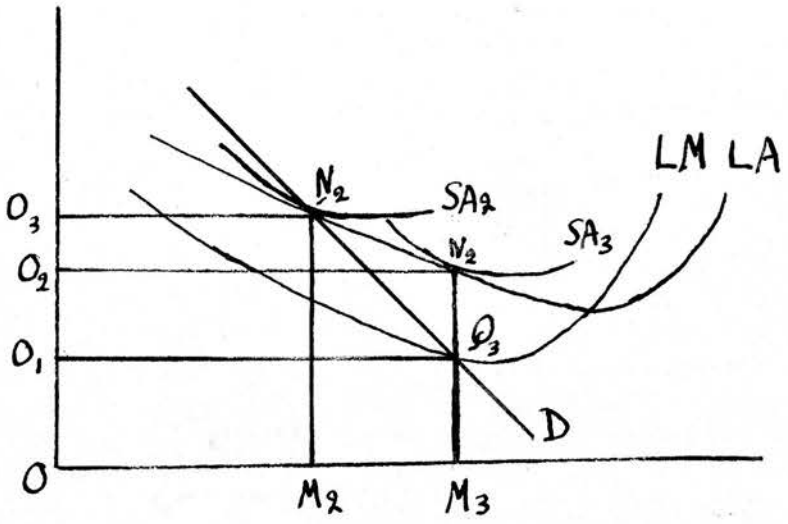

Figure 5.

In figure 5, where the relevant portion of the long-run average cost curve is reproduced from figure 4, the gain from producing OM_3 rather than OM_2, measured in terms of consumers' surplus, would be the area $O_1O_3N_3N_2O_3$, and the loss would be the rectangle $O,O_2N_3O_2$ with a net gain of $O_2N_3N_2O_3$.

This is Marshall's famous argument for subsidising increasing returns industries, although of course, his analytical scheme was ~~totally~~ different. For him, the falling curve is the total supply curve, not the firm's cost curve. The presumption he established for subsidising increasing returns industries would hold whether the increase in returns is due to economies internal to the firm or external to it (but internal to the industry), though it is not clear, as has been often pointed out by many writers - why, if returns are increasing, the firm, by expansion and integration - does not establish itself into a monopoly. By using in the above exposition the firm cost curve and by assuming that at each size the firm is optimally organised, the relation between increasing returns and monopoly is brought to the foreground and external and internal economies are dealt with from a welfare point of view at the same time.(5)

Professor Pigou's argument(6) for subsidising increasing returns industries is in one respect narrower and in another wider than necessary. On the one hand it refers only to external economies within the industry, whereas/

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(5) We abstract here from economies external to the industry.

(6) Cf "Economics of Welfare", Part II ch. XI.

whereas the presumption for subsidising is applicable both to external and internal economies. On the other hand, it includes - through the use of the debatable distinction between the supply price from the point of view of the community, from which transfer elements are excluded, and the supply price from the point of view of the industry - the case where though physical costs are still declining the decline is more than offset by a rise in the supply price of the factors which the industry uses. Also the concept of the equilibrium firm, like Marshall's representative firm, obscures the relation between increasing returns and monopoly.

It will be argued that where the entrepreneurial profit motive does not lead to the optimum distribution of resources, public enterprise is preferable to fiscal measures (taxes and subsidies) as a method of securing this optimum. This means that, in the case we are considering, public enterprise will have to be run at a loss. Under normal competitive conditions, the loss and profit account plays a great role in the rational distribution of resources. Investment decisions are made in anticipation of consumers wishes, and losses and profits are the pointers which indicate whether these wishes have been correctly anticipated or not. By resigning ourselves beforehand to losses in the case considered above - which is a necessary outcome of equating price with longrun marginal cost - we lose the services of these pointers and the door will be open to persistence in miscalculation. But the risk is unavoidable, and, I think, worth taking, for increasing returns are the vehicles through which economic progress is transmitted. Moreover, this risk is inherent in the situation; it may not be possible to avoid it merely

by/

by producing that output which equates long run average cost with price, for if we establish the fixed factor at the size indicated by the intersection of the demand curve with the long run average cost curve, it may still be necessary to produce at a loss, for the long period average cost curve may touch the short-period average cost curve, not at ~~its~~ the latter's minimum point, but to the left of it. In this case the short-period marginal cost curve (SMC in figure 5) will intersect the demand curve not at the point at which the latter intersects the long run average cost curve, but below it (at R in figure 5) so that if the short-run demand curve turned out to take the place of the anticipated long-run demand curve, the output indicated by the intersection of the demand curve with the short-run marginal cost curve (and we have seen that output must be determined by these two things) will have to be produced at a loss, since so long as the minimum point on the short run average cost curve is not reached, the marginal cost curve will be below the average cost curve(7) This situation can be avoided only if price is made to be determined/

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(7) This situation will not arise if the long-run average cost curve touches the short run average cost curve at the latters minimum point. Some writers argue that so long as the long period curve is downward-sloping, it must touch the short-period curve to the left of its minimum point (See for example, R. Harrod: "Analysis of Supply" Economic Journal, Dec., 1931, p. 575). As Professor Chamberlain has shown ("The Theory of Monopolistic Competition", 6th edition, Appendix B) there is no theoretical necessity for this.

determined, not by short run marginal cost, but by short run average total cost, which is highly uneconomical since, especially in investments which have a fairly long life, it precludes the adjustment of output from existing plant to fluctuations and changes in demand.

A similar situation arises in the case of lumpy investment, like canals, bridges, roads, dams, irrigation schemes, which, if they are to be made at all, have - for technical reasons- to be made on a large scale, and whose short-run marginal cost may be so negligible that it would not rise to cut the short-run average cost curve at its minimum point until the point of intersection of the latter with the demand curve has been passed on the left. In this case equating short-run marginal cost with price will necessarily mean that the cost of the investment will not be completely covered, but the gain to consumers may be much greater than the loss.

VI. The case is different where the demand curve cuts the long-run average cost curve at its minimum point or to the right of this minimum point. Here increasing returns cease to exist. Conditions of competition, however, would not obtain unless the demand curve is so far removed to the right of this minimum point that there will be room for a number of optimum-size firms so large that none of them will be conscious of the effect of its output policy on price. Failing this condition, imperfect competition(8) conditions would obtain. No a priori analysis of the effect of such a situation on the size and output of different firms is possible; it all depends on who came first, what size/

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(8) We use these two words to include cases of duopoly, oligopoly and monopolistic competition.

size he established and what output policy he adopted, on how producers who came after him react to his actions, and on whether they act in co-ordination or in competion, but there is a prima facie case for believing that the optimum distribution of resources will not be secured. This is a sweeping statement, but it is, I think, unavoidable. The received analysis of imperfect competition is limited to the comparison between competitive prices, outputs and sizes, with the same things had any of the infinite variety of situations which fall under the heading of imperfect competion obtained. It does not tell us, given the fact that the market is not wide enough to be competitive yet not so narrow to establish a pure monopoly, which of these situations would obtain, and in general, it establishes that, besides higher prices, both output and the size of the firm would be less than required by the conditions of cost and demand. This by itself is enough to establish a presumption in favour of public interference, in the relevant sector, with the direction of resources, in accordance with the rule of equating marginal cost with price, even though the form of divergence from the optimum, whether with respect to price, output, or size of firm, had this direction been entirely left to private enterprise, may not be ascertained beforehand.

VII. The question now arises whether this interference should be by fiscal measures - subsidies and taxes - or by direct public enterprise. Two arguments, I think, tip the balance in favour of the latter.

1. The rule that the optimum distribution of resources would be secured if price is equal to marginal cost in any particular industry would/

would hold if the rest of the economy is competitive. Accordingly, if imperfect competition is likely to be widespread, enforcing the rule would mean that the State would have to calculate, besides the long-run marginal cost for the optimum-size firm, the marginal cost of every firm producing the product in question, in order to estimate the amount of the subsidy. It would also have to estimate the long-run demand schedule for the product, in order to find the number of firms of optimum-size necessary to satisfy this demand, and if the existent number is too large it would have to close the superfluous number or tax it out of existence.(9) In a publicly managed industry, it would need to estimate only the long run marginal cost of the optimum size firm. The number of firms that would be necessary to satisfy demand would be approached automatically: as long as existing publicly directed firms are making abnormal profits, - it is not contemplated on any realistic assumption that the State would start by building simultaneously a number larger/

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(9) Mr. Kahn, in his little masterpiece, "Some Notes on Ideal Output", E.J. March 1935, following Professor Pigou in formulating the conditions of the optimum in terms of the marginal product of the factor rather than the marginal cost of the product, suggests that, in a fairly uncompetitive economy, since it is no longer possible to equate private and social marginal products in all industries, we should make the marginal social products diverge from the marginal private products to the same extent in all industries. To achieve this result we should arrange ~~in~~ industries in descending order of the amount of monopoly they enjoy, this being measured by the elasticity of demand for the individual firm's product. Production then should be encouraged in the industries which enjoy more than the average ~~of~~ amount of monopoly by a complicated system of taxes and subsidies whose calculations involve the measurement of such magnitudes as the marginal physical productivities of entrepreneurs. The limitation of such an analysis, extremely elegant and theoretically satisfying as it was, is not only that it has to wait until the "empty boxes" are filled - one must be careful not to throw too many stones from glass houses - but also until the inappropriate sizes of fixed plant has been chosen and the factors unoptimally used before the system can be worked out.

larger than the optimum number - their number is less than the required one. It may seem contradictory to speak of abnormal profits while it is prescribed that prices should be equal to marginal cost since, if the firm is of optimum size its long run marginal cost is equal to average cost and hence no profit would be made. But this rule, applies only, as far as output determination is concerned. Where demand requires more than one firm it also serves to determine the number of firms. In the short run - that is, for output determination from existing firms - price should be equated with short run marginal cost. The shape of the demand curve would thereforebe needed only in a rough way, to help in estimating whether total demand is likely or not to be big enough to support a competitive number.

2. The other, and more important, argument is this. The method of subsidies is essentially an ex post method. It seeks to correct errors already made in an actual situation which has been already reached, and is a natural offspring of the equilibrium method of analysis, which is in the main concerned with formulating competitive equilibrium positions, giving them welfare significance, and then prescribing cures for the economy when it actually diverges from them. ~~positions of equilibrium~~. It is not designed for dealing with these errors before they actually arise. Perhaps this was all that can be legitimately expected from theory in the historical situation in the context of which it developed. Technical innovations which made the optimum size grow larger and larger were historically spaced in time, and accordingly made it possible for a competitive number of firms to grow up to this size gradually in a market continuously/

continuously expanding and thus able to sustain this number. Also the innovations which accounted for a big jump in the optimum size would not have had their significance fully perceived except with time, and had had to be first put into practice by some enterprising entrepreneur before the market verdict could give an actual test of their possibilities. Ex post argument from the competitive equilibrium is essentially an argument from the results of a method of trial and error. The market forces sanction the action of the entrepreneur who introduces, at his own risk, more efficient methods of production, or predicts more accurately the conditions of demand, and censors that of the entrepreneurs who fails. For this the community pays three prices. First, the cost of the errors of the entrepreneurs, a cost no less heavy for the entrepreneurs as a class than for the community at large. Second, it foregoes the advantages of co-ordinating entrepreneurial action, for, economic theory being capable, as we argued in Chapter II, of explaining only changes in a given situation, establishes a presumption that the adjustment will be of an optimum kind only if these changes are, in the nature of the situation, incapable of co-ordination. If the changes originate from entrepreneurial action in other spheres of the economy than those to which a given entrepreneur's foresight, knowledge, or interest is limited, there is no guarantee that the adjustment of each to the immediate situation in which he finds himself will be of a total optimum nature. Thirdly, it risks the loss from any divergence from the optimum which might result from an investment whose scale is determined only by monopoly profit considerations. These three prices may have been/

been, in the historical situation in which theory developed, worth the gain. For underdeveloped economies, things are different:

A. The first price is unavoidable in any case. Mistakes in prediction are as likely to be made by a public agency as by a private entrepreneur; the bigness of the mistakes of the former on account of the bigness of their unity of decision ~~are~~ is likely to be offset by the greater efficiency of their predictive machinery and, let us hope, by a greater knowledge of comparative economic and social history than a private entrepreneur, on the average, is likely to master. Because, however, mistakes are likely to be made, and there is no other way of discovering them, it is necessary to retain the market sanction, but the balance on that count as between public and private enterprise, is undecided in favour of either.

B. As to the second price, the loss from lack of co-ordination, it would be, in the special circumstances in which these countries find themselves, too heavy to pay, just because it is uncalled for. For, thanks to the path-breaking experience of fully developed countries, the effect of the necessary innovations, particularly with regard to efficiency and to the amount of demand they are capable of stimulating, can be more easily calculated than was possible when they first occurred. They do not have to unfold themselves gradually; they are ready for application, so to speak, in one dose. For this reason they can be more readily integrated. This of course, does not mean that these countries should proceed directly to apply the latest methods of production or reproduce in their economies an exact pattern of the most advanced economies. This/

This would be highly uneconomical, even if it were possible. The point can best be illustrated by means of an example.

Suppose that a prohibitive tax is imposed on a certain branch of textiles where private enterprise was hitherto unable to compete with foreign producers ~~simply~~ because there was not enough trained labour to operate the machines, and no entrepreneur was willing to undertake the necessary sacrifice entailed in training them for fear that another entrepreneur might come along and attract his labour*ers* by higher wages; that the demand conditions were such that a competitive number of textile producing firms can be maintained; and that there is neither a machine-making nor a steel industry in the country, so that the textile manufacturers would have to import textile machinery from abroad. Suppose also that, once a demand for machinery was known to exist, a competitive number of textile machinery-making firms would crop out to satisfy this demand, and lastly, seeing that there is such a demand for steel, a competitive number of steel-making firms would be established within the country to supply the necessary steel to the machine-making firms. These assumptions are made in order to provide as favourable conditions for the optimum distribution of resources through private enterprise as can be imagined. At the end of the period contemplated, say forty years, there would be fully competitive conditions in all stages of production in that branch of textiles. Yet it does not *necessarily* follow that, over this period of years, and viewing the process as a whole, the optimum distribution of resources *will* have been achieved. It may well have been better first to establish a steel-producing unit, then, with home-produced steel/

steel, to produce textile-machinery which in its turn helps in producing the final product. To make the comparison between the two methods correct we have to assume that at the end of the same period there would be the same number of steel factories, machine-making factories and textile factories. We have also to assume that the same amount of textiles was consumed during the forty years period. The possible superiority of the second method would be due to this. Because of the cheaper labour in underdeveloped countries, it may be much more economical to utilize it in producing steel, then using the product, with the help of similarly cheap labour, for making textile-machinery, than to import high-price textile machinery from high wage countries, and then import high-price steel to supply the home textile-machinery manufacturers. Two arguments can be made against this line of reasoning. First, that higher wages are the result of higher effectiveness of labour. This of course is true to a very great extent, but it is beside the point. This argument is correct only as an explanation of differences in wage-levels. It assumes a given degree of effectiveness in the two countries compared, and explains the differences in wages accordingly. In our case, where effectiveness is to be changed by the very act of developing the new industry, it is differences in wage levels which has to be taken as given in calculating how best this effectiveness can be increased. The second possible argument is that the amount of sacrifice - through capital formation - involved in the first method is smaller than in the second. In the first method, ~~whose~~ *in which* development proceeds by three stages, first importing textile/

textile machinery, then steel, then the machinery necessary for building steel works, the amount of resources necessary to produce a given amount of textile in the first stage is locked up for a shorter time, the period of time for which it is locked increasing in the second, then in the third stage. There will be thus a progressive deepening of the process of capital formation, in contrast with the second method, where capital is locked up from the beginning for a longer period, with the same process being reproduced again; that is, there will be a progressive widening of the process of capital formation. The first method, it would be argued, would be more appropriate, since the community is better able to afford to wait for longer periods of time for the fruits of a given amount of resources as its income rises with time. But this is not necessarily so in this particular case, for as against this must be set the amount of resources released through not having to purchase from abroad the high price machinery in the first stage of the first method and the high price steel in its second stage, so that, if these resources, released over a period of forty years, are worth more than the resources which must be used for buying from abroad during the initial stages of the second method, the textiles necessary to equate the amount of consumption in the two cases, there would be a net gain in adopting the second method.

It is of course quite conceivable that a number of entrepreneurs would foresee this- presumably it is the function of the rate of interest to tell them which method would be more productive in the long run - and act accordingly. Since we are assuming a long-run demand so/

so large as to enable competitive conditions to prevail all along the line, in this case private enterprise would secure the optimum distribution of resources. It is highly unlikely, however, that, with the existing levels of income, the demand would be such as to enable competitive conditions to obtain. In this case the State should carry out production in the stages affected. Thus if demand was so large as to maintain a large number of textile firms but not large enough to require a correspondingly competitive number of machine-making or steel firms, there is a case for the State operating the latter, and leaving the former to private enterprise. As income grows, the demand may grow so much as to require a competitive number of machine making or steel factories; but so also may the optimum size of production unit. The result will differ from one industry to another and from one stage to another and can be judged only in the light of actual circumstances.

The previous example was particularly chosen because it is often argued that because underdeveloped countries are lacking in capital they should concentrate on the production of final consumers' goods and light industries. This is not necessarily correct, and each case should be considered on its own merit. The inference from it applies even with greater force where no international trade complications enter into the situation. The obvious illustration is the industrial power industries, such as electricity undertakings, and the constructional industries. Because the demand for their products is dependent on the pre-existence of industries of the lower order, and because the optimum unit of the former, even at the existing levels of income, is likely to be

very large, their development will either drag behind and at the same time limit the development of the industries which depend on them or fall into the hands of a monopoly, and there is a case, accordingly, for public enterprise in this field.

C. We have already, in dealing with the question of co-ordination, dealt with the question why there is no need for the waste which occurs from an investment whose scale is determined by monopoly profit.

VIII. Before attempting to give a general view of the picture which emerges we must now reconsider in some detail the question of distribution. It was argued in Chapter II that it follows from the principle of diminishing marginal utility of income, that, to the extent that this does not lead to a reduction in its total size, income should be equally distributed. This conclusion, of course, like all conclusions of economic science, is subject to modifications on non-economic grounds. For example, it may be that certain values and important non-economic services to the community, cannot be maintained and supplied except at higher income-levels. If the national income is not big enough to secure to everyone this level, redistribution would involve the danger of extinguishing these values and losing these services, and it would then be wise to maintain a class of relatively high income individuals who would set the tune, in culture, refinement and sense of public duty, to the rest of the community, and would supply each generation with home-trained new members who would carry forward the standard. Obviously the question cannot be judged on a priori grounds; it has to be judged in the light of the role the rich have historically played - or perhaps more/

more relevantly, intend to play - in the cultural, political, and even economic development of each particular country. Not in all countries are the rich the salt of the earth! Such considerations are important, but they fall outside the scope of this study, and only the economic qualification to the general principle of equality will be here considered.

This question is complicated by the fact that redistribution refers to individuals - more accurately, to households - while earnings refer to economic categories, and that the earnings of one factor may react on the supply of another. For underdeveloped countries, however, it is ~~xxxxxx~~ simplified by the fact that, for all practical purposes, redistribution will take the form of the distribution of the burden of public investment and of social services such as education and public health, if these are to be at all commensurate with the requirements of development.

1. The easiest factor to deal with is land. To the extent that its earnings are pure rent, they can be appropriated without any danger to the size of the national income(10)

2. Labour is more difficult. We are not concerned here with the aggregate supply of population. This has been dealt with in Chapter III, and should affect only the rate and form of investment; it would be no more/

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(10) The practical problem of how to distinguish pure rent from other earnings such as interest on capital development is much easier to solve in underdeveloped countries than elsewhere. In these countries of notorious absentee-landlordism, the great majority of land-development, reclamation, and irrigation schemes have been State financed and State executed and are State managed. (in one country at least, from the standpoint of regulating production, the whole cultivated area is like

"one huge managerial estate", cf. Doreen Warriner: "Land on Poverty in the Middle East", for the R.I.I.A., Chapter III on Egypt). The prevalent method of cultivation is that of the open field system. Whether ownership is located in multiple-thousand acre landlord or a fraction of an acre peasant proprietor, land holdings are subdivided into small scattered strips where "even the plough may not be used on many small farms... (and) the use of the spade and hoe becomes more common" (R. Mukjeree: "Food planning for Four Hundred Millions" quoted by K.S. Shelvanker in "The problem of India", 1940, p. 109" The land hunger caused by population increase makes this method rather than capitalistic farming in the western sense the most profitable way of utilizing the land. If any capital is used on the land, a cow, a plough, or a pair of shovels, it is usually supplied by the lease holder himself, or hired from a wealthier neighbour. (For handy references, see beside the above two works, "Egypt: An Economic and Social Analysis" by Charles Issawi, for R.I.I.A.: "The Agrarian Problem in India", by L.A. Ahmend.)

The organisation of land property itself cannot be discussed here in great detail; but this general remark may be made. As industrialization proceeds and industry absorbs the redundant increase in population it is to be expected that methods of cultivation would change towards the modern farming system. Since agriculture is one of the most perfectly competitive industries and the optimum size is fairly small, it is desirable that peasant proprietorship be encouraged by State action towards the breaking up of feudal estates and the creation of inheritence systems which would prevent their fractionalization into small strips.

more logical to object to redistribution because it leads to an increase in population than to object to any rise in income on the same ground. Here we are concerned only with the effect of redistribution on the amount of work every individual is willing to do.

Labour is a factor of production. At the same time it is attached to human beings, who are the recipients of income. Everyone owns it, and it is open to everyone to utilise it. Its supply is more directly connected with its earnings than any other factors, but the relation is not always in the same direction; an increase in earnings may increase or may decrease the supply of labour. Also labour is not one homogeneous quantity, and the supply price differs from one kind to another. Because of all these considerations, it is not easy to draw clear cut conclusions. The problem however, can be approached piece-meal in the following way:

a. Though taxing pure rent up to its full amount may not be required on distribution grounds where it provides income in a small way to small land owners, it is highly desirable on account of its favourable effect on the supply of the labour of those who live wholly or partially on it.

b. It may be that, at the levels of rewards prevailing in under-developed countries, the supply curve of certain categories of labour is downward sloping, because work is so exhausting as compared with its rewards that any rise in the rate of remuneration which would provide income above subsistence level would give a welcome opportunity for some relief from it. If we follow the "preferred position" school of welfare, then we have to accept this situation as given and do nothing about it - with disastrous/

disasterous effects on development. Since we may safely assume that after a certain point this curve curls forward for some length (after which it curls backward again because of the time-consuming nature of consumption at high income-levels), and since - this is a pure value judgement - it is desirable that the level of remuneration should reach this middle section, individual preferences between work and leisure should not be an ultimate determinant. It does not follow, however, that because an increase in the rate of remuneration may lead to a reduction in the supply of labour, ~~that~~ income should not be equally redistributed. It merely follows that redistribution should not be of the type that leads to this result, as would be the case, for example, if it took the form of direct subsidies to wages or to the price of necessities. It should take the form of either long term investment which would lead, at a later period of time, to a rise in real wages so rapid that the dangerous patch of the curve would safely be left behind, or of social services, such as education, housing, and improvements in health conditions. These elements of real income are probably not related in the minds of wage-earners to their own labour supply and at the same time, by their very nature, increase the willingness and ability to work.

c. Labour is a hold-all term for all sorts of work, including entrepreneurial efforts, but these are better dealt with as a separate category. To the extent that there is an equal opportunity for everyone to choose his work, the earnings of different kinds of labour will represent, in a market economy, its supply price, and interference with these earnings on distributional grounds would be prejudicial to the

size of the national income. Where there is no equality of opportunity, the earnings of those groups which require more expensive training contain an element of monopoly. It is unlikely that, at least in the initial stages, underdeveloped economies would be able to give to everyone the opportunity to do the type of work which he may desire, for this means free education at all stages for all who desire it. On the other hand it is very desirable, for obvious reasons, that State expenditure be very much extended in that direction. It follows that the earnings of higher-grade workers, as determined by market supply and demand, would contain an element of monopoly which is also State-subsidised. Also it may be that these grades - whose services are more urgently required in under-developed countries than the services of any other group - have reached that section of the labour-supply curve where it curls backwards for the second time; hence a reduction in earnings would lead to an increase in the amount of work offered. If this is true, there would be thus three reasons why their earnings should not be exempted from a full share in in the burden of State expenditure.

3. Normal entrepreneurial profits in a purely competitive economy are as much wages as the earnings, say, of professional workers, though of course, they are subject to greater risks and fluctuations than the latter and require a different type of training and aptitudes. The above remarks apply to them only to a minor extent and they should be least interfered with. Monopoly profits do not raise any problems since we argued that the State should carry out productions in those sectors of the economy which are likely to fall under monopoly. There is however, a certain hybrid type which is neither monopoly nor normal profits/

profits, which accrue to the entrepreneur as a result of introducing technical innovations which may require time-because of patent rights or because of natural inertia on the part of other entrepreneurs - before they spread to other competitors. These profits played an immense part as an incentive for the entrepreneurial innovations which revolutionised the Western economies, and it is open to question whether any progressive economy can do without them. For underdeveloped countries, however, the immediate question - and it is likely to be immediate for quite a considerable time - is not whether they are to contain within themselves an incentive for continuous progressive transformation or not; this can be settled afterwards. The crying question is that of the best methods of distributing the necessary sacrifices involved in introducing innovations already made elsewhere. No doubt, in economic matters, every application of technical knowledge, however well known and tried elsewhere, contains an element of adventure, and requires a certain amount of incentive. But the incentive should be much less in magnitude than is needed for the original act of creation. Because the required innovations are, on the whole, mere adaptations to local circumstances of innovations made elsewhere, much less protection should be given by the State to innovators and greater efforts towards the dissimination of technical knowledge should be made by it. Taken in conjunction with each other, these two steps should eliminate this type of monopoly profits without impairing the efficiency of the competitive sector.

4. There remains the supply of savings, which earn interest. The question, it must be noticed, is not whether taxation of rent, earned income/

income, and profits, according to the above rules, would reduce savings, for the amounts thus taxed are saved and used for State investment, in the widest sense of this word. Where the nature of the investment permits, it should be carried on as if it were private investment, i.e. with the rate of interest on the investment entering into the calculation of the most profitable channels and forms of investment. If the taxed amounts are capable of earning a higher rate of interest in private hands, the State should lend them for private investment, for, once it is accepted that equalization of income is the general rule, leaving these amounts to be invested by private individuals - if they are saved at all and not spent on consumption - instead of gathering them in taxation would mean that the rich would enjoy the rewards of the abstinence of the poor. The question here is whether interest on individual savings made from income net of taxation should itself be taxed. These savings themselves cannot be taxed, since this would jeopardise the maximum supply of labour and enterprise. But would taxing interest on them interfere with the supply of voluntary savings? It would if there were a functional relation between savings and the rate of interest. The controversy on this point is familiar and need not be entered into in detail - the details are irrelevant anyway, since they assume the existence of institutions, such as widely spread credit systems and life insurance companies, attitudes, such as interest - consciousness, and habits such as the purchase of annuities for old age which, do not exist on any large scale in underdeveloped countries. Savings may be made for the sake of the amenities of holding wealth, for old age (Mr. Harrod's lump saving), for heirs/

heirs, or simply because, by earning interest, they would be a means of earning additional income. The effect on the amount of saving done for all these purposes of a reduction in the rate of interest - for taxing interest is equivalent to a reduction in interest rate - is uncertain, but it is probably true that a higher rate of interest would call forth a greater amount of savings. As against this maybe set the fact that to the extent that savings would have been made anyway, interest or not interest, their earnings, like rent, are in the nature of surplus, and may also have an unfavourable effect on the supply of labour. We will return to this question ~~when~~ after we consider the determination of total investment.

IX. Interest is the earning of savings. Savings are necessary for capital formation, which increases the national income. In what sense can we say that the rate of interest measures the marginal productivity of capital and is a cost of using it? The question is vital to the treatment in the following chapter of international trade theory. It belongs to the theory of the optimum distribution of resources between their alternative uses rather than to the distribution of income between individuals, but it is more conveniently dealt with here. No full-dress treatment of the subject can, of course, be attempted, and a passing reference is not facilitated by the existence of a vast controversial literature on it. Because of its importance, however, it is proposed to merely reproduce here the simplest and clearest exposition that was found on the subject - contained in Professor Meade's "Economic Analysis and Policy".(11)

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(11) 2nd edition, Part IV, III

Suppose that, of a total supply of factors of 3 units of land and 300 units of labour, all previously employed to produce wheat directly, 1 unit of land and 100 units of labour were used to produce ploughs and the remaining 2 units of land and 200 units of labour were employed with the ploughs to produce wheat. There would now be a constant capital stock of ploughs in existence and the 1 unit of land and 100 units of labour would be constructing just sufficient ploughs to replace the existing stock of ploughs as they wear out. The output of wheat would almost certainly be greater if the 3 units of land and 300 units of labour were employed in this way than if they were all employed directly to produce wheat without any stock of ploughs. Up to a point "as soon as the capital stock has been increased, a larger output of finished goods will be produced by the given amount of labour and land, but while the stock of capital goods is being built up, the output of consumption goods will be smaller than before. Only by going without consumption goods, which could otherwise have been produced, can a greater stock of capital goods be produced, in order that the output of consumption goods may be permanently increased in the future."(12)

To show how the marginal product of capital should be measured, let us suppose that one more plough is to be added to the stock. "If the same amount of labour and land were to be used directly with one more plough in the production of wheat, this would add something - let us say/

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(12) op. cit., p. 274. Italics Professor Meade's.

say 20 units of wheat, to the annual output of wheat. We may call this the gross marginal product of a plough. But as one more plough has been added to the stock of ploughs, more labour and land will have to be used to produce ploughs to maintain this greater stock. Let us suppose that 1 more unit of land and 2 more units of labour must in future be regularly employed in the production of ploughs for this purpose. The net addition to the output of wheat will therefore be 20, minus a reduction in output due to the fact that 1 less unit of land and 2 less units of labour are available to produce wheat directly with the increased stock of ploughs. This reduction in the output of wheat is equal to the marginal product of a unit of land used directly in producing it, plus twice the marginal product of a unit of labour used in the direct production of wheat. If the marginal product of land used directly for the production of wheat is 5 units of wheat a year and the marginal product of labour used in this way is also 5 units of wheat a year, then the net or true marginal product of a plough is 5 units of wheat a year. Its use would add 20 units to the annual output if it were used with the same amount of land and labour, but its maintenance requires the withdrawal of a certain amount of labour and land from the direct production of wheat and so a consequent reduction in the annual output of wheat by 15 units. If the farmer who intends to add one plough to his stock decides how much he would add to his output of wheat by using one more plough with the <u>same</u> amount of labour and land, and multiplies this by the current price of wheat, he will thereby calculate the value of the gross marginal product of the plough. If he subtracts from this sum/

sum the amount which he must set aside for the repair and maintenance of the extra plough, then - on the assumption that factors of production are paid rewards equal to the value of their marginal product - the result will give the value of the net marginal product of the plough. If, therefore, all products are sold at prices corresponding to their marginal costs, so that the cost of maintaining an extra plough represents the value of the product which the factors so employed might have produced in any other occupation, the marginal product of a capital unit instrument may be measured by the value of its gross marginal product minus the cost of its upkeep and maintenance. The marginal product of capital may best be measured as a percentage rate of profit in order that the value of the marginal products of different forms of capital instruments may be compared."(13)

From this discussion, Professor Meade concluded that the community should continue to accumulate capital until its marginal productivity has fallen to zero, for "If for example, the marginal product of capital is still 5 per cent., this means that by spending £1000 on the construction of an additional capital investment - i.e. by one single sacrifice of consumption goods valued at £1000 enabling the factors of production to be released to produce the capital instrument - the community can add for ever a net amount to its real output valued at £5. At the end of 20 years the community will have received an additional income equal in value to the sacrifice of consumption goods necessary for/

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(13) op. cit. pp. 274 et suite. Italics Professor Meade's.

for the investment, but the increase in annual income will last forever, since we have allowed for the cost of permanent upkeep of the capital before reckoning its net marginal products." (14)

The excuse for quoting ad extensio is that this exposition throws very much light on the nature of capital and the interest which it earns- (15) two questions which have been befogged in the literature on the subject by identifying this interest with interest proper, which is merely a payment for "loanable funds". No doubt the latter is partly "explained" by the former, but it is determined quite independently, and a full explanation of the determination is pertinent only to an understanding of how a given system works. To understand the welfare issues involved in capital formation we have to resort to some such simplified model as Professor Meade's.

One of the matters it clarifies is that interest on already existing capital does not represent any cost to the community. So long as there is a gain from transforming factors from production for immediate consumption to production for future (increased) consumption, that is, so long as the marginal productivity of capital has not fallen to zero, there will be a demand for loans with which to perform this transformation, and a demand price for these loans in the form of an offer to pay interest on them. These loans will represent a real cost to the community only if they are made at the expense of current consumption, that is, if they are taken from current income. At the same time, so long as there is a price/

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(15) It will be noticed that the basic idea in this presentation is the same as the one which was developed in chapter III Section I on the optimum rate of capital formation.

(14) op. cit., p. 277. Italics Professor Meade's.

price offered for new savings, the same price will be demanded for the maintenance of existing capital. Consider the case of the farmer who, saving a hundred pounds in one year, spends it on the construction of a plough the productivity of which is 5 pounds a year. After 20 years he will have received an additional income equal in value to the sacrifice of consumption goods which was necessary for the investment.(16) He will also have the plough, since in calculating its marginal productivity he deducts its maintenance cost. Since he can always realise the value of the plough in the form of amortization funds and lend it for (net) investment, he must make an interest charge for maintaining the services of the plough, and this charge enters into his cost of production. Yet neither for him nor for the community is there any real cost corresponding to this charge. In maintaining his capital intact he is not doing any act of saving, for savings are made only from current income. He can, of course, consume the value of the plough and forsake the interest on it, but it would be stretching the words somewhat to call refraining from/

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(16) It is assumed here that he does not discount future utilities, that is, that he has no pure time preference. For a full discussion of the value of this concept as an explanation of interest cf. R. Harrod: "Towards Dynamic Economics", Lecture 2. It is also assumed that the marginal utility of income to him is constant overtime and that his ability to earn income is also constant. These two assumptions for any particular individual are, of course, wide off the mark, but for a community - and it is only with the sacrifice which a community incurs in the act of capital formation that we are concerned in this paragraph - they are quite justifiable, provided that the community is not increasing in numbers at an increasing rate, for then it will have to save from its current income to provide the future extra numbers with the same amount of capital with which it was itself equipped. On these two points we ~~must~~ refer again to Mr. Harrod's book.

from doing this a cost for which interest is a necessary payment, since by so doing he will forego the permanent current income derived from the services of the plough. Moreover, stepping out of this simplified example to a modern community with universal capital-accounting and an organised market for capital assets, it is impossible for the community as a whole - under normal circumstances - to dissave. For suppose that some of the holders of capital assets sell their assets and spend the money on consumption; the result will be an increase in producers' profits which, by raising entrepreneurial expectations, will lead to a demand for capital goods which enter in the production of the consumers' goods whose price has risen. If the "dis-saving" of these holders is not counter-balanced by savings on the part of other recipients of current income, there will be an inflationary pressure, and real capital will be maintained by means of "forced" savings all the same.

Interest <u>on existing capital</u> is not an element in the cost of production, though it enters as a cost in the calculation of the entrepreneurs. The analogy with rent from land is in this respect complete.(17) Yet there is this striking difference: whereas surplus from land represents the meanness of nature and its amount measures - in a vague but nonetheless real sense - its refusal to meet man's demands on its services (rent is surplus only to the owners of land, not to the community); interest on existing capital is a <u>net</u> surplus to the community, a permanent gain/

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(17) It must be noticed that we do not refer here to the Marshallian <u>quasi-rent</u> concept of the earnings of capital already sunk in physical aids-to-production.

gain from previous acts of sacrifice, a bounty given to it ~~the community~~ by its history, by one aspect of its "conjuncture".

Because interest on existing capital is not, to the community, a real cost, it does not follow that entering a charge for it in the cost of producing any given commodity does not fulfil a real function, any more than the fact that rent is not a real cost to the community is an argument for not entering a charge for it in the cost of producing any given commodity which requires the services of land. Both rent and interest are two of the most powerful instruments evolved by man for the rational distribution of resources among different alternatives, for they provide the necessary "weights" for the rational distribution of consumption among different commodities whose production require their services, and for the most efficient way of producing any given amount of any given commodity. But they are none-the-more cost for that.(18)

Interest on new investment is different. For, just as marginal land earns no rent - the analogy does not go beyond mere illustration - marginal capital, for a period of years during which the cost of the original investment is recovered and after which capital ceases to be new - does not earn any surplus, and interest on it - for this period - represents this cost.

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(18) Cf: Lord Keynes: "The General Theory", pp. 213-217. "It is much preferable to speak of capital as having a yield over the course of its life in excess of its original cost, than as being <u>productive</u>. For the only reason why an asset offers a prospect of yielding during its life services having an aggregate value greater than its initial supply price is because it is <u>scarce</u>; and it is kept scarce because of the competition of the rate of interest on money..... I sympathise, therefore, with the pre-classical doctrine that everything is <u>produced</u> by <u>labour</u>, aided by what used to be called art and is now called technique, by natural resources which are free or cost a rent according to their scarcity or abundance, and by the results of past labour, embodied in assets, which also command a price according to their scarcity or abundance. It is preferable to regard labour including of course, the personal services of the entrepreneur and/

X. To the extent saving is done for the purpose of earning interest, taxing interest on savings will reduce the amount of voluntary savings. This would be an argument against taxation if the institution of financing new investment from voluntary savings through the mechanism of an organised loan market secured to the community an optimum balance between present sacrifices and future gains, in the same way, say, as the market for labour or commodities secures an optimum balance between work and leisure or between individual preferences for different lines of consumption. Interest on saving done for other purposes would still be in the nature of surplus, but could not be taxed because it could not be distinguished from saving induced by the reward of interest.

Much doubt however, has been cast on the sufficiency of this institution to fulfil this function in any optimal sense, particularly on the ground that the set of forces which determine the aggregate amount of savings are different from those which determine the aggregate amount of investment, and that the two types of decisions are taken by two different groups of people.(19) For underdeveloped countries, this doubt is enforced by the following two considerations.

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and his assistants, as the sole factor of production, operating in a given environment of technique, natural resources, capital equipment and effective demand." (Italics Lord Keynes')

(19) For a list of the assumptions under which market forces may be said to bring about such an optimum, even after disregarding full employment considerations, cf I.M.D. Little: "A Critique of Welfare Economics", pp. 137 et suite.

(1) The pressure of population in a poor country, rather than stimulates investment, is likely to have a depressing effect on it. Manufactures are likely to become increasingly out of the reach of the majority of the people. Also because of the subsistence level of wages prevailing, there will be little incentive to substitute machinery for labour. A poor country where population is increasing will end up by living on hand-to-mouth current labour. This conclusion is modified by the fact that, in practice, the substitution of labour for capital is not continuous. No amount of labour can transport goods or men as fast as a train. Also some goods - motor cars, wireless sets, electricity light, etc. - cannot be produced at all without the help of some capital. Investments of this kind, however, are limited by the smallness of the income groups which can afford to buy their products, and in so far as these products can be imported they will be obtained by exchanging the products of current labour for them. Savings may even be invested abroad.

(2) Savings, where there is an organised market for loans, is an exchange of present for future money. In deciding how much of his income he will save the individual will be influenced, not only by his estimate of the shape of the stream of his future needs, but also by that of his future earnings from future efforts. This latter estimate will be based - no doubt in a hazy and uncertain way - on his observation of the earnings of different age-groups of individuals persuing the same occupation; he will not take into account the rise in earnings - whether it takes the form of reduction in prices or a rise in money wages - which will result from his own act of saving. This is becausethe effect of his savings on the facilities/

facilities for future production in the whole economy is so negligible that he will not notice it. Also the veil of money obscures to him the relation between his savings and the future rewards to his efforts. The faulty telescope is not a subjective one directed to the future, but an objective one whose area of vision over the present is very restricted. In a progressive economy, (we abstract here from the effect of saving on employment) this is rather a blessing; if everyone foresaw the future rise of income the aggregate amount of savings would probably be reduced. In a stagnating economy, this aspect is also lost sight of, and cannot be allowed for by bringing it into light and preaching for saving, for everyone, in arranging his own stream of income, will take into account the future rise in earnings and depend on his neighbours for doing the necessary saving.

The difficulty is not solved by arguing that it is the entrepreneurs who actually do the investment, and that, realising the advantages of capital formation, they will bid for loans until the high rates of interest induce an optimum amount of saving. This would be the case only if interest absorbed the whole gain from capital formation. A more important consideration is that entrepreneurs base their investment decisions on their expectations of future effective demand. These expectations are based for the most part on present experience, and the very poverty of a country, whose effective demand even for necessities is very limited, does not make these expectations very bright, particularly for manufactured goods. Yet supply, if balanced and co-ordinated, creates its own demand. Where there is a great demand for a commodity, as in the case of absolute necessities/

necessities such as food, there is no necessity for such co-ordination; an entrepreneur can always depend on being able to sell any amount of food he can produce, though even in this case, if population pressure is great, he may not find it profitable to use capitalistic methods of production. Where the demand for the commodity is sensitive to the level of income, and the economies from large-scale production are great, investment on such a scale may be deterred, not by the meagreness of savings, but by the insufficiency of demand, while, had there been, simultaneously with investment in any particular branch, investment in other branches on which wages, interest, rent and profits are spent, the supply of every commodity will form part of the effective demand for the rest. The lack of co-ordination, together with the other limitation on the size of the market arising from the very unequal distribution of wealth, rather than the meagreness of savings, seem indeed to be the most important factors limiting development in underdeveloped countries. The phenomena of rural over-population cannot be otherwise explained. It has been estimated (20) that, in Egypt, one-fifth of the present labour, with existing/

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(20) Cf: W. Cleland, "A Population Plan for Egypt", L'Egypte Contemporaine, May 1939. For a convenient reference, cf Dorreen Warriner, op. cit., p.33. Professor Cleland further estimates that, with half the degree of mechanization on American farms, 10 per cent of Egypt's farmers could do the work now done.

For similar calculations for Eastern and South-Eastern Europe, cf: P.N. Rosenstein-Rodan: "Problems of Industrialisation of Eastern and South-Eastern Europe", E.J., June-Sept. 1943, p.202, where it was estimated that an agrarian excess population amounting to 20-25 millions existed.

existing methods of production, might be able to maintain the existing volume of agricultural production, and, on a safer estimate, the surplus would be one-half the farm population. Thus the number of farm workers could be cut by 2 millions and the farm population by some 5 millions without any reduction in output. Employing these millions in building power stations and factories and operating them, would not be an act of saving and investment, since current output would not be reduced, it would be an act of organisation. A private entrepreneur whose power is limited to one part of the process would not do this because his expectations about future demand conditions are based on present ones.(21) Even a gigantic monopoly which perceived these possibilities and had behind it a credit machinery which would supply it with funds to pay the slightly higher money wages necessary to induce the men to leave their present unproductive in natura employments, would not be able to do this since, devoid of the power of taxation, it will not be able to curb the subsequent inflation. Also unless the whole economy was under its authority, it will not have the power to pursue in the agricultural sector the shovelling in the land-lease system which would enable a smaller number of men to produce the same output.

Exempting interest on savings from taxation can be justified only on the ground that it interferes with the optimum balance between present and future/

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(21) For a detailed illustration of this point, which he considers to be a case of external economics, cf the above-mentioned article by Mr. Rosenstein-Rodan, p. 205.

future satisfaction. If, because of the above considerations, the institution of financing investment from voluntary savings is not likely to lead to such an optimum and the rate of investment is better determined by the State, there is no reason why savings should earn a reward equal to the marginal productivity of capital. In rich countries, there is already a growing tendency towards the elimination of this type of earnings,(22) and poor countries can less afford to maintain a class of <u>rentiers</u>.(23) This does not mean that interest should be abolished; if savings are not left free to find their own level of reward, there may be/

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(22) See on the theoretical side, Keynes: "The general Theory.." p. 221, R. Harrod "Towards a Dynamic Economics", Lecture five.

(23) This, however, is for a different set of reasons. The elimination of pure interest is advocated in rich countries mainly on employment grounds. In poor countries, where the majority of the population live near or at starvation level, the question of distribution assumes a greater importance and its significance is increased when we consider the effect of inequality on internal development. This is in agreement with the views of the United Nations Sub-Commission on Economic Development: "It is the view of the Sub-Commission that internal inequalities of distribution in income and wealth are detrimental to economic development in so far as they reduce the nutritional, health and general living standards of the people, create an excessive demand for imported luxury consumption goods further an excessive transfer of funds abroad and prevent the growth of internal markets. Where such conditions exist, fiscal methods are appropriate to bring about a more equitable distribution of incomes and channel additional resources into economic development." (Summary of the report of the third session, published in "Methods of Financing Economic Development in Under-Developed Countries" by the United Nations Department of Economic Affairs, 1949 p. 119.

be a tendency for them to be invested, not in their most productive uses, but in those particular lines of business which the savers themselves pursue. A compromise would be to maintain a free market for loans and at thesame time tax part of their earnings.

XI. We may now try to put different parts of the picture together. In Sections I - VII an attampt was made to map out those spheres where public enterprise is more likely than private enterprise to lead to an optimum distribution of resources. It was argued that an ex ante approach to the question of competition is more appropriate. To secure the technical economies of integration, all stages of production whose integration might result in an increase in efficiency should be taken into account when determining the relation between cost and size. If demand conditions were such as to require less than an optimum number of competitive units, production should be in the hands of public enterprise. Where it requires one unit whose size is less than the optimum size, a unit larger in size than that which would be determined by the point of intersection between the demand curve and the long run cost curve should be established and output sold at a price less than total average cost.

In sections IX and X it was argued that population pressure on the one hand and lowness of income levels on the other are likely to lead to a rate of investment, if it were left to be determined by market forces alone, less than is desirable, and that this rate should be determined by the State.

The question now arises whether these conclusions are of much use as guide to policy and whether they fit in with each other. In deciding whether theproduction of any given commodity should be left to private

enterprise or taken over by the State, it will be remembered, it was necessary to know the shape of the long run cost curve and the demand curve for that commodity. This procedure is difficult enough when dealing with a single commodity; if applied over the whole economy, it is quite impracticable, since we can no longer take the supply price of the factors and the demand for other commodities as given, as a private entrepreneur would. We cannot resort to the "competitive solution" advocated by most socialist planners since, apart from the fact that it by-passes the question of what is to be the sphere of public enterprise, it is part of our argument that demand for any commodity is partly determined by the supply of other commodities and that the scale of investment should be determined, not by the supply of savings and the marginal productivity of capital but by an act of policy. A return to this last point, however, would open the way for a tentative solution of the rest. How should the scale of investment be decided upon?

One of the reasons, it was argued, for the insufficiency of the institution of financing investment from voluntary savings to secure an optimum rate of investment is that each individual will not be able to foresee the full benefits of his savings. It follows that, even if the State took steps to solve the other difficulties, for example, by co-ordinating investment plans, the limit set by voluntary savings will be below the desirable limit. At the same time, there is an upper limit to the State's power to supplement voluntary savings by other methods which aim at diverting resources from production for current consumption. "Direction" of labour is undesirable, and forced saving by/

by inflationary finance tends to defeat itself, particularly where the greater part of saving takes the form of holding fixed-yield assets, as it would when the State plays a major part in the development of the economy. It wipes out individual past savings, and is thus an act of bad faith, and it also discourages current voluntary savings. There is thus one method left; taxation, but this also has a limit beyond which it impairs either people's ability or willingness to work. Since work of all kinds is ultimately the only means of raising the standard of living and since even future production depends on the amount of work currently done, taxing beyond this limit will defeat its purpose. This limit, vague and unascertainable as it is, is, I think, as good a determinant of the rate of investment , in Malthus-ridden countries, as can be found.

Even if this source of investment is tapped to the limit, it may prove insufficient to increase total income at the same rate as that of population increase, if this increase is of the type which sets an obstacle to the rise in income. In this case it will not be possible to accelerate the rate of investment by directing more current resources to it. But it will be possible to accelerate the rate of income increase some time in the future by influencing the form of investment in which current resources reserved for this purpose are put. As the United Nations' Sub-Commission on Economic Development ~~has put it~~ stated(24) "Progress in economic development involves a variety of projects with different degrees of direct productivity and different degrees of self-liquidating properties/

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(24) Cf: report of the fourth session, May, 1950, document E/CN.180, paragraphs 11-12.

properties in terms both of their total yield for liquidating the investment required to be financed and the yield in the form of foreign exchange that may be necessary to service the investment. Any programme of development, of necessity, contains a proportion of low-yielding and slow-yielding projects which are as yet essential pre-conditions for the high - and rapid - yielding projects. They constitute "Social and Economic Overhead Capital". Examples of "Social Overhead Capital" are health, education and housing projects, and of "Economic Overhead Capital" are transport, power and public utilities. This distinction between slow - and low - yielding investment on the one hand and rapid - and high - yielding investment on the other was made by the Sub-Commission in connection with the question of international investment in underdeveloped countries which will be considered in chapter VII, but it is equally serviceable in connection with the question of the form investment should take:

Social overhead investment is at the same time expenditure on current consumption. Education, medical service and housing, satisfy current needs as well as increase future ability and willingness to produce. It is this latter quality which - beside other non-economic reasons - justify spending on them more than individuals would be willing or able to pay if they were left to provide these services for themselves.

Economic over-head investment: improvements in transport facilities, exploitation of industrial motive power sources, constructional industry, and, for those countries which, by their natural resources and by their size, are able to make full use of large-scale production, heavy industry

in general, offer many applications of the theoretical points discussed above. Often they are geographical monopolies. The fixed cost is usually very large relatively to prime cost, and the boundaries within which the size of the fixed cost can be varied without serious loss to efficiency is strictly limited by technical conditions. Demand for the products of any one type of investment is likely to be less than is required to cover the cost of the fixed factor. They are also versatile, their products enter in different degrees in the production of almost all consumer's goods. They are the most important source of general increasing returns: they provide lower- order industries with cheaper - in terms of human effort and sacrifice - construction costs, raw materials and industrial power, and they also make it possible, by the increase in demand their efficiency occasions for these industries to make full utilization of large-scale production within their own sphere. In a private enterprise economy, unless the unit of decision is very large, in which case it is unlikely that competitive conditions would prevail, the development of the higher-order industries will wait on the development of industries of the lower order, which, in view of the population factor, may never take place. But from a welfare point of view, the development of the latter is prior to the development of the former.

If the limit set on investment by the taxable capacity of the population is too low to secure an increase in total income, rapid enough to cope with population increase, there is a case for pushing forward with these slow - and low - yielding projects, for they will provide a wider basis on which high - and quick - yielding projects can be established in the/

the future. They do not all offer the same opportunity in this respect: it would obviously be wasteful, after building one power-station, to withhold resources from investment in consumers' goods industries which would utilise this power, and direct them to building more power stations, but it would not be wasteful to utilise this power station to supply cement factories which will further facilitate the building of more factories, or to lay more stress in the initial stages on improvement in transport facilities rather than on building power stations.

The decision as to the proportion of total investment devoted to social and economic overhead investment and to the distribution of this proportion between different lines is bound to be somewhat arbitrary. This is generally recognised for the case of social overhead investment and of special types of economic overhead investment, such as road-building. Other types of investment which fall under this heading are not essentially different from activities pursued by private entrepreneurs, and it would seem therefore that, even though it may be conceded, on population grounds, that the proportion of resources devoted to them may also be arbitrary fixed, the decision as to whether any particular project should be undertaken or not, at what scale, and at what time, if not guided by some test of profitability, or at least by the same accounting system as used in the private sphere, may involve a serious misallocation of resources. Such calculations when many projects are involved, are extremely difficult to make, since the constants of any one process of calculation become the variables of the whole group. It would be only too easy, to escape the difficulty, to argue that economic overhead investment projects are not technically independent of each other. The

exploitation/

exploitation of a certain source of industrial power or a mineral resource will usually be tied up with another project for developing transport facilities to transfer the products to a source of labour supply or to a consumption centre. Of the many projects which offer themselves for consideration at any one time, it will be possible to weave a connected pattern (e.g. of the T.V.A. type), in which every part is complementary to the other. The general outlines of this pattern will be determined by the physical make-up of the country in question, by the geographical distribution of its population and by the general conditions of demand expected to prevail. Such a pattern will usually take a number of years to execute, and the order in which different parts will be executed will be determined by technical conditions. The method of carrying out any particular year's part of the total scheme will be dependent on the general conditions of supply and demand prevailing in that year. Though these are important factors which, in practice, would limit the possibilities of serious error, it must be admitted that they do not provide a basis for accurate calculation having the same elegance portrayed in the theoretical analysis of autonomous entrepreneurial actions. But then this elegance rests on an ex post approach to the problem which, rather than take into account the advantages of co-ordination referred to above, merely side-track them. Perhaps the whole problem is incapable of being satisfactorily solved within the existing framework of theory, and until some other, more appropriate technique is evolved, it must be confessed that the advantages of muddling through in a big way seems to outweigh the advantages of muddling through by infinitessimal adjustments to existing conditions.

Assuming that decisions as to the scale and distribution of overhead social and economic investment will be reached somehow, we may pass on to other questions. These decisions will be prior to other decisions directly related to individual preferences (whether these latter are made by entrepreneurs or by consumers), in the same sense as normal budget expenditure is prior to all other expenditure. Though the general outlines of the chosen pattern of economic overhead investment would cover a fairly long period, detailed decisions about implementing different parts of it would be made at short, say, yearly, intervals. This would enable cost estimates to be more accurately assessed, and also would make it possible to take into account the changes which occurred in the economy as a result of past decisions.

As each part is completed it will give rise to various "prime investment" opportunities, which are directly related to consumers' demand for different commodities. The products or services of economic overhead investment projects would be sold at those quantities which equate marginal cost with price. The amount of resources devoted to prime investment projects during any given period would be made up by the difference between total investment as suggested above (taxation plus voluntary savings) and social and economic overhead investment plus ordinary government expenditure. They would be distributed between different lines according to the usual rules of business accounting: those projects which are able to pay a higher rate of interest will be given a prior claim on investment funds, until the total amount is is exhausted. This would apply whether/

whether prime investment funds are demanded by public or private enterprise.

If an attempt is to be made to ensure beforehand that the scale of investment in any particular project of this type is not influenced by monopolistic considerations, advance information about private entrepreneurial plans need to be possessed by the central authority, as well as a power of veto over these plans. This can be secured if the credit machinery is in the hands of the State. It will then be possible, of the various prime investment projects proposed at any given period, to select those which yield the highest returns, and also to see to it that investment resources are distributed in an optimum way. The problem of solving thousands of simultaneous equations referred to above will not arise where there is already a great effective demand for the commodity in question, which is satisfied from local inefficient production. Both inefficient and efficient methods are likely to continue to exist side by side with each other for a considerable period of time and this will prevent investment decisions from being influenced by monopoly considerations. A similar case is where the demand for the commodity was previously satisfied by importation from abroad. In these two cases, investment decisions can be left to private initiative, and there will be no necessity for calculating cost and demand schedules by the central authority. There would still be the possibility that, because entrepreneurs may not be accustomed to taking the big risks entailed in large-scale production, private initiative may lead to less than optimum/

optimum fixed-factor size, or that, where there is foreign competition, may not enter the field at all. There would also be the cases of geographical monopolies, of commodities which do not enter into international trade and the existent demand for which is not sufficient to maintain competitive conditions, and of products for which the economies of large-scale production are judged to outweigh the gains to consumers from product differentiation. In these cases private initiative would be supplemented or supplanted by public initiative.

There would still remain the difficulty that the optimum size of the fixed factor varies with the rate of interest. It is not certain that this difficulty is adequately solved by any system: in a purely private enterprise economy, the rate of interest offered at any time by the banking system will partly depend on the credit facilities granted to entrepreneurs in the immediate past and there is no reason to expect that the accidental temporal order in which credits are applied for and granted will ensure that an optimum allocation of credit will be achieved. A possible solution might be to inaugurate each year a merry Investment Season during which private and public entrepreneurs bid, à la Walras, for loans, or, better still, be allowed Edgeworth-fashion, to contract and recontract, until the total investment funds reserved for that year are exhausted. If publicity of future plans is made obligatory, entrepreneurs would also have a greater knowledge of what is going to happen in different sectors of the economy than would otherwise be the/

the case. This should also enable them to take into account the increase in the demand for their commodities which would result from the increase in the supply of other commodities, although, for individual consumption goods, this consideration is not likely to be of great importance; its relevance is greater in the field of economic overhead investment. The effect of such an institutional innovation, it may be added, (as a further recommendation for it) on the morale of economic theorists, is bound to be very great!

In the last paragraph but one, competition from foreign sources of supply was mentioned as a guarantee against monopolistic tendencies in those commodities which enter international trade. This brings us to the relation between underdeveloped and other economies, which will be taken up in the following two chapters.

CHAPTER VI.

International Trade and Economic Development.

I. The general rule is: given that the prices of different commodities are equal to their marginal costs, the free trade mechanism will ensure that every country will specialise in those goods in the production of which they have a comparative cost advantage, with corresponding gains to all countries.(1) Neither rigidity of prices, whether due to monopoly in selling goods or in selling factor services - nor immobility of factors within a country is an argument for restrictions on international trade in that country; the proper procedure is to remove the rigidities(2) and increase the mobility, not to restrict trade. Also, it is immaterial from/

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(1) We do not deal in this chapter with gains which might accrue to a country from improving its terms of trade if she imposes an import or export duty, or with the effect of international trade on the level of employment or with the effect of economic development on the standard of living of highly industrialised countries. For this latter aspect cf: H. Frankel: "Industrialisation of Agricultural countries and the Possibilities of a new International Division of Labour". E.J. 1943; International Labour Office: "World Economic Development", 1945; League of Nations: "Industrialisation and Foreign Trade" 1945; A.J. Brown: "Industrialisation and Trade" 1943; "The Report of the Economics Committee" (papers of the Royal Commission on Population.)

(2) If these rigidities cannot be removed, for example, because of trade union policy, there may be gains from protection, cf: G. Haberler "Some Problems in the Pure Theory of International Trade", E.J. June 1950, p. 228et suite. It will be argued in chapter 8 that one of the advantages redistribution of income by state policy is that it removes the necessity of developing trade unions, which are after all, a sort of workers monopoly.

from the point of view of any particular country whether this condition is approximated abroad or not, "the best that a particular country can do for herself is to make her own price structure correspond to her own cost structure and to enter into such foreign trade as is consistent with that condition and with the prevailing world structure."(3)

II. There are three exceptions to this rule.

(1) Where the industry in which a country has a comparative cost advantage gives rise to more than the average external economies over the whole field of production.(4)

(2) Where an increase in the production of a commodity in which a country has a comparative cost disadvantage results in a reduction in cost so great that it will shift this commodity to the comparative advantage class.(5)

(3) The third and most far reaching - though least easy to formulate - exception/

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(3) Harrod: "International Economics", 2nd edition, pp. 47-48.

(4) cf: G. Haberler: "The Theory of International Trade", pp. 206-207; also the above mentioned article pp. 236-8. It is one of the limitations of the production - opportunity curve technique which Professor Haberler uses that it limits the discussion to two commodities and two countries; this obscures the fact that the exception arises only when the industry gives rise to more than average amount of external economies.

(5) It is enough for this exception to hold that the commodity be shifted to the intermediate class, where it ceases to be either an import or an export. This again is obscured by the production - indifference curve technique. This is the familiar infant industry argument and its most important aspect is where the industry is subject to the law of increasing returns; whether this is ~~because~~ due to economies internal or external to the firms which compose the industry. This case was very much debated since F.D. Graham wrote his famous article: "Some Aspects of Protection Further Considered", Q.J.E.,1923, (cf "Some Fallacies in the Interpretation of Social Cost", Q.J.E. vol. 38 (1924) and Graham's reply and Knight's rejoinder/ F. Knight:

rejoinder, vol. 39: also J. Viner, "Studies in the Theory of International Trade" pp. 475-81; Haberler: "Some Aspects of the Pure Theory of International Trade", E.J., June 1950). Professor Graham's case was considerably weakened by following the traditional procedure of assuming two countries producing two commodities in isolation, then trade "opens up" between them, and it was easy to show that, unless the increasing returns were due to external economies, the case he constructed was incompatible with equilibrium. This is not how things work themselves out in practice. Almost all the increasing returns' industries are new industries which developed first in our country and then spread to others. If the size of the optimum unit is fairly large, the mere precedence of the former country would give it an apparent comparative cost advantage over the others, so long as they attempt to reach this size by gradual steps as would be the case in poor countries whose entrepreneurs are not accustomed to large-scale enterprise, whereas had they reached directly for this optimum size the comparative advantage may shift to them.

Professor Haberler, in the above-cited article (p.239) represents the infant industry argument by a deliberate movement on the production-opportunity curve which would shift the curve itself, and cites as examples for the cause of this shift the cases where with the expansion of the industry, methods of production will gradually be perfected and skills acquired. Internal economies cannot be represented in the same way, since they are taken into account when we draw these curves. But then we must remember that in some cases we have to "argue to diagrams, not from diagrams." In the case of new industries which have not yet been established a country does not slide up and down opportunity curves according to market conditions.

exception arises from the fact that costs which enter in entrepreneurial calculations are not commensurable. Rent is not cost in the same sense as labour, nor interest. For an isolated community, this does not matter; they all enter on equal footing as calcula ting categories which are necessary for the optimum distribution of resources between different alternatives; the question of distributing the earnings of different factors is to be regulated, not by the price mechanism but by the central authority, according to the principle of equating marginal utility from income. Where a community enters into economic relations with another this position can no longer be maintained: Two of the main reasons for the existence of a separate theory for international trade are that the actions of the central authority in any one political area is limited to the inhabitants of this area, and that this theory attempts to define the policy which maximises the welfare for the inhabitants of that area, to the exclusion of all others.(6) The concept of cost which is appropriate for/

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(6) Indeed it can be argued that but for these two considerations the theory of international trade loses its raison d'etre as a separate branch of the science. The immobility of factors between different countries are no more reason for a separate analytical technique than their immobility between two regions of the same country. Professor Onlin, in his "Inter-regional and International Trade", 1933 applied the ordinary technique of the theory of value to the two cases, with very fruitful results as to the proximate causes which determine the course of international trade, but with dropping the doctrine of comparative cost all criteria for commercial policy also disappeared.

for the isolated economy is not appropriate here. This will be considered with respect to rent, interest, and wages of skilled labour.

1. Whether rent is earned by natural resources whose services are not demanded by the community or by natural resources whose services have been diverted from use for home consumption, the case for free trade is unaffected. In the first case - for example pure differential rent earned by specific natural resources - rent will be a windfall gain, in addition to the usual gain from trade. In the second case the foreign demand will raise the price of the commodities which require the services of these natural resources to home consumers, and those who consumed more of these commodities than others may suffer a loss of welfare, but provided that income is equally distributed, the welfare of the community as a whole will be increased.

2. It is different with interest on capital.(7) Interest (as we argued in the last chapter) on already formed capital, except for a comparatively short period during which capital pays its cost and after which the community is permanently lifted into a higher level of current income, is a net surplus. Yet it remains a calculating category and enters, like rent/

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(7) "The logical difficulty for the doctrine of comparative costs created by interest charges is not that they can be shown to result in a deviation of money costs from real costs, but rather that there is no satisfactory way of showing whether money costs which include both wages and interest costs do or do not conform to real costs". Viner, "Studies ...", p. 514

rent, in the cost of particular commodities. For technical reasons, some commodities require more capital than others, while for entrepreneurs wages and interest charges are on an equal footing, so that, if a country, at any given moment of time, has a comparative cost advantage in a labour intensive commodity - and the mere abundance of labour, relatively to other factors, particularly if population is increasing at a great rate, that is, the mere poverty of a country, will give it a comparative cost advantage in such commodities(8) - they will produce more of this commodity and exchange it for capital intensive commodities produced in other countries. This is consistent with the entrepreneurs equating the marginal productivity of capital in all lines of production. The argument would cease to be valid on account of this if capital formation depended solely on the supply of savings, or if it were desirable that it should, and if all commodities were amenable to capitalistic methods of production to the same extent. Then entrepreneurs will use this supply in improving the methods of producing the commodity in which the given country has a comparative cost advantage. But capital formation is as much a result of entrepreneurial activities as of the supply of saving, and not all commodities offer the same opportunities for the use of capitalistic methods of production. If a country has a comparative cost advantage in a commodity in the production of which, for technical reasons, comparatively too much labour and too little capital enters, entrepreneurs/

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(8) For an exhaustive analysis of the way in which differences in relative factor endowments in different countries determine international specialisation, cf. the above mentioned work by Professor Ohlin.

entrepreneurs will not be induced to make the community undertake those "single" acts of sacrifice by which income is permanently raised. Yet it is just by these acts of capital formation that a poor community can hope to raise its level of income, even though they mean a great present sacrifice on her part.

3. The same rule also applies to skill. Skill, like capital, once it is acquired, transmits itself to future generations from the extra income it earns, and this extra income is no more cost to the community than the earnings of already formed capital. If, at a given moment of time, a country has a comparative cost advantage in the production of commodities which require less skill than others, it will gain from international trade only to the extent that its skill is taken as given, and incapable of augmentation.

III. These exceptions are theoretically distinct, but only after a fashion, and their practical application is not easy. A particular industry may be more amenable to increasing returns than others, yet create less than the average amount of external economies, or require less than the average amount of skill, though it will usually employ more capital. If, however, we contrast broad categories of commodities such as agriculture or raw material and manufacture, it will be found that, in general, they all group on one side, that of manufacture. Manufacturing industries create more than the average degree of external economies, their possibilities of increasing returns are much greater than in agriculture, they employ more capital and require much skill. In fact, when we take such a broad view, these exceptions lose their distinctiveness, and are seen to be different aspects - and not all the aspects - of the general phenomenon of increasing returns. Consider the/

the case of the training of an industrial labour force, which is of particular importance in those economies which are still predominantly agricultural. The new methods of production which has developed since the Industrial Revolution require a new set of habits: discipline, acceptance of factory routine, regional mobility, etc., which are totally different from those demanded by the traditional occupations which man has pursued everywhere for hundreds of years[9], and a familiarity with mechanical devices not acquired in these occupations. Such a training may come under the heading of increasing returns to any particular manufacturing industry, of external economies created or enjoyed by it, of development of particular kinds of skill, or even of the formation of capital invested in human beings. Or take the case of the growth of technical knowledge, which was probably the most important immediate cause of the phenomenal rise in income which occurred in modern economies in recent times. Whatever the original causes which gave rise in the second half of the Eighteenth century to the Industrial Revolution which has since been going on in different parts of the world may have been - and they probably have much to do with the growth of Rationalism and the emergence of the Capitalist Spirit - there can be little doubt that once it was started, it became self-propelling. Each invention gives rise to a host/

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(9) These new habits - like all habits - run against natural inclinations, (for the difficulties which the early pioneers of the Industrial Revolution in England found in recruiting agricultural labour for work in their factories see T.S. Ashton: "The Industrial Revolution 1760-1830", p.113; A. Redford: "The Economic History of England", pp. 144-145), and it would seem that something similar to the Enclosure movements which occurred in England in the Eighteenth century and in Germany in the Nineteenth and forcibly drove surplus agricultural labour off the land is a pre-requisite of industrialisation. This can be done by granting liberal credit facilities to farmers, which would enable them to use mechanical equipment at terms with which labour cannot compete.

host of new ones which could not have been conceived without it. No improvement in textile machinery industry could have taken place if there were no mechanical textile industry, and this improvement could not have taken place in England if there were no textile industry in England. There is a fundamental propensity of technical devices to increase at a continuously increasing rate, for the more tools there are, the greater is the number of potential combinations.(10) Progress thus becomes its own cause; and so does backwardness. This growth of technical knowledge can be subsumed under the heading of increasing returns to particular industries, of external economies which each industry creates to a greater or smaller extent, or of development of particular types of skill, but it probably transcends - and is even obscured by - statical classification. "In fact we are here verging on the high theme of economic progress; and here therefore it is especially needful to remember that economic problems are imperfectly presented when they are treated as problems of statical equilibrium and not of organic growth..... The Statical theory of Equilibrium is only an introduction to economic studies/

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(10) This is the "Principle of Technology", the importance of which was stressed by Veblen in his many writings, and which was recently propounded at great length by Professor C.E. Ayres in "The Theory of Economic Progress". Professor Ayres quotes A. Koerzubski's "Law" that advancement in scientific knowledge and technical power proceeds at the rate of rapidity increasing geometric or logarithmic function, and supports it by the fact that the entire development of civilization has occurred within roughly one hundred generations, which is such a small fraction of human history. Within the definition of tools comes methods of business organisation, such as, to quote examples from modern developments, the machinery of personnel administration, of stock-taking and inventory control, of efficiency management and cost accounting.

study of the progress and development of industries which show a tendency to increasing returns."(11)

The growth of knowledge and its application in one part of the world is not a substitute for fostering its growth and application in other parts. Apart from the advantages to the world as a whole from having as wide a basis as possible for scientific research and from the experimental application of new knowledge under varied sets of circumstances, and apart from the economic benefits which accrue to any one country from its priority in any particular line, there is the fact that industrial knowledge does not flow with much ease from one country to another.(12) Even the admirable free masonary of fundamental scientific knowledge from which many of the new industries directly stemmed, would not by itself meet this point, for it is a long way from abstract/

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(11) Marshall:"Principles.", p. 461. Cf also Allyn A. Young: "Increasing returns and Economic Progress", E.J. Dec. 1928.

(12) Even within the same country knowledge does not move so freely. "Those firms which spend large sums on their own research organisation inevitably have strong commercial reasons for keeping certain of their activities to themselves, at least until they have reached the stage at which protection by patent is possible. In some cases where patent protection is regarded as impracticable the process or technique may be kept secret as long as possible." (Board of Trade, Working Party Reports: Cotton 1946, H.M.S.O.,p. 134). As between countries, there are in addition, the difficulties of language, geographical distance, and national sentiment. This immobility of technical knowledge, or know-how as the Americans would call it, is probably the most important immediate reason for the low income levels prevailing in underdeveloped countries, and the United Nations Programme of Technical Assistance for Economic Development in Underdeveloped Countries set under General Assembly resolution 200 (III) may well become ~~the~~ a most effective instrument for raising the standard of living in these countries.

abstract knowledge to its successful economic embodiment in machines, processes, and products, which depends on the pre-existence of a supply of trained technicians and of a high state of development in many supporting industries. A hundred first-rate nuclear physicits will not produce an atomic power-station in a country devoid of metallurgical, electrical-engineering, and chemical industry, much as this country may be fitted for this type of project.

IV. Both the importance of international exchange of goods and services and the limitations it may set on a country's development, if this exchange is left entirely to the free play of market forces, are very great. The low income-levels now prevailing in China, India, and the Middle East, is itself a comment on the comparative cost doctrine, for these are the countries which adopted free trade, or rather had it imposed on them by what is known as the Open Door Policy, up to the last two or three decades.(13)

Much has been made of the obstacles to economic progress arising from the existence in these countries of sets of beliefs, attitudes and social institutions different from those which prevail in Western Europe. These may explain why these countries failed to develop autonomously in the Western manner; they do not, by themselves, explain why the Western development failed to spread to them. Rationalism spreads, geographically, and from one sphere of social life to another; but/

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(13) Great Britain, whose priority in the Industrial Revolution gave it a special advantage, is the only high income-level country which adopted a free trade policy for a considerable period of time, and she resorted to protection in those industries, such as rayon, and motor cars and accessories, in which she lost the priority.

but only to a very limited extent, and very slowly, by abstract argumentation: Man is essentially inert. Also, especially in poor countries, few have the leisure and training necessary for acquiring whatever measure of objective reasoning Man is capable of. But he is readily impressed by concrete demonstration; his interest is engaged when this demonstration is integrated with his day-to-day activities, and is heightened when it is related to his wants. "The world ceased to believe that Joshua caused the sun to stand still, because Copernican astronomy was useful in ~~mining~~ navigation; it abandoned Aristotle's physics, because Galilio's theory of falling bodies made it possible to calculate the trajectory of a cannon ball; it rejected the story of the flood, because geology was useful in mining; and so on."(14) The new type of activity, which tangibly ministers to essential human needs, has a universal potency which sweeps away all obstacles. Also, much lip-service as they may pay to them, men, most men, that is, seek Heavenly Kingdoms only when they despair of being able to establish their own little ones here and now; and they are quick to shake them off their minds, once they see that hunger, cold and heat, disease, and unending, unrewarding toil, are not part of the eternal order of things.(15)

Historically/

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(14) Bertram Russell: "Power: A New Social Analysis", p. 142.

(15) Religion, in so far as it affects man's conduct in his every day life, or rather the interpretations placed on the relevant religious texts (and few are the texts which do not bear many interpretations) and the selection, in effective practice, from many contradictory texts, of those on which stress is made (and a religion wholly consistent with itself in a watertight system of logic would have little chance of surviving the changes in the conditions which affect the livelihood of its adherents) seem to be very much a reflection of the material conditions which surround man. It is interesting in this connection to note the early affiliations of Calvinism, which some writers hold to be responsible for that shift, in Western Europe, in religious standards which gave sanction/

sanction to acquisition, invested the persuit of worldly success with the blessings of a "call", and established in it a sign of devine favour. According to Professor Tawney ("Religion and the Rise of Capitalism") it was largely an urban movement, carried from country to country partly by emigrant traders and workmen, and finding its stronghold precisely in those social groups to which the traditional scheme of social ethics, with its treatment of economic interests as quite a minor aspect of human affairs, must have seemed irrelevant or artificial. It had its most influential adherents in great business centres, and its leaders addressed their teachings primarily to the classes engaged in trade and industry who formed the most modern and progressive elements at the time. "In doing so, they naturally started from a frank recognition of the necessity of capital, credit and banking large scale commerce and finance and other practical facts of business life", thus breaking with tradition which regards preoccupation with economic interests 'beyond what is necessary for subsistence' as reprehensible. (Op. cit., chapter II). In England, the growth of Puritanism, the off-shoot of Calvinism, was "by meanes of the City of London ... and by reason of its universall trade throughout the Kingdome, with its commodities conveying and deriving this civill contagion to all our cities and corporations, and thereby poysoning whole counties", (quoted by Professor Tawney, op. cit. p. 203, pelican edition, from "An orderly and plaine Narration of the beginnings and Causes of this Warre", by an unknown writer). It is interesting also to note that within Puritanism itself, there were two opposing tendencies as to the social system to be established, the one for authoritarian discipline and the other for unrestricted individualism. Cf. Tawney, op. cit., Chapter IV, particularly section ii. The change in social values thus does not seem to have been in the nature of a "first cause". It did not occur spontaniously, it embodied, rationalised - in a psychological sense - and sanctified the values of a commercial class which gained, through the unequalled expansion of trade, increasing importance in the life of the community, access to political power, and the support of thinkers on matters political and economic, whose rationalism freed them from old traditions and habits of thought and enabled them to supply the new forces with a new philosophy for the social order. To stress the economic origin of the new social values does not mean minimising their historical importance as a new and henceforth independent and extremely powerful force, which first paved the way to the industrial revolution by breaking the old system and old beliefs, then positively created it.

Historically, it was part of the specific function of entrepreneurs - that is, of those individuals whose conception of private earthly paradise went a little further in that direction than that of most men[16] and who had the means and knowledge with which to realise their hopes - to create via the impact of the revolution they introduced, the milieu favourable to their activities. In a world integrated by international trade, the same process does not bear repetition in all countries without some help from the State; the priority of one or a group of countries would give them a temporary cost advantage over the countries in which no such transformation took place, and thus make it unprofitable for entrepreneurs - acting individually - to bring it about.

Those countries which realised this, or rather their governments, took the necessary steps[17] with corresponding rise in their standards of living. Other countries, for various reasons, did not show any undue haste, and even, rather than adopt a neutral policy of laissez-faire, fostered, forced, or had it forced upon them, a false development which transformed their economies, to the extent that they were transformed at all, to mere sources of food and raw materials to highly industrialised countries. The result is a world much poorer than/

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(16) This is rather a simplification of entrepreneurial motives. There is also the sense of power and of achievement.

(17) For the extent of government support of German and French development, cf. J.H. Clapham; "The Economic Development of France and Germany" Chapters III, IV, X, XI. For Japan: G.C. Allen: "A Short Economic History of Japan", pp. 27-31; E.B. Schumpeter (ed.) "The Industrialization of Japan and Manchukuo", part II.

than it might have been.(18)

Not only did economic development in these countries take a one sided turn quite unwarranted by the fundamental relation between the size of their population and their natural resources(19) and least conducive to autonomous economic progress; their share in the fruits of that limited - in relation to world needs and world potentialities - amount of progress which took place elsewhere is much less than pure theory would lead us to believe. This is due to a set of circumstances not taken into account by theory. The imperfect market for manufactures made it possible for producers to withhold, in the form of profits, interest, and, later on, with the development of trade unionism in industrial countries, higher wages, the benefits of technical improvements rather than pass them over to consumers in cheaper prices,(20) while agriculture and raw material production, unless the latter required modern technique, in which case it in/

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(18) For a comparative study of different national income levels, their rates of growth, and the correlation between levels of income and the distribution of population between primary, secondary, and tertiary industries cf: Colin Clark "Conditions of Economic Progress", Chapters I - III.

(19) Cf the following paragraph.

(20) This tendency was accentuated by the growth of international cartels, for which estimates range from two hundred and fifty to twelve hundred in interwar period, controlling among themselves about 42% of world trade (cf. "International Cartels", United Nations publication, 1947, pp. 2 - 3) "Raw material cartels although of primary importance in world economy, constitute only a small fraction of the total number there being a comparatively small range of raw materials compared with the wide variety of manufactured industrial goods" (ibid. p.3). The vast majority of international cartels, which included several important raw materials, were, as far as member countries are concerned, European, (ibid, p.4) One of the chief purposes of these cartels was to secure, by/

in the hands of nationals of highly industrialised countries, are of such a nature that any improvement soon finds its way to consumers. The capital costs of such improvements as canals, dams, and various other irrigation schemes are borne by the community ~~and~~, not entered into the price of the product; and the lack of familiarity with modern accounting methods prevents producers from entering into these prices an interest-charge for the considerable time-lag between input and output. The pressure of population on the land makes it impossible ~~to organise~~ for labour to organise itself and thus keeps wages and earnings of peasant farmers at subsistence levels. On the monetary side, prices of industrial products were prevented from falling with the increasing volume of production by the increasing use of banking money in advanced economies, while the limited use of this type of money and the absorption of precious metals for non-monetary purposes in under-developed countries, prevents foreign demand for their products from bearing on their prices in the manner portrayed by the self-regulating gold-flow theorem(21) and acts in/

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by the division of export areas, a monopoly position for the supplying producers in the territory alloted to them, and, "whilst in the producing countries the respective governments may counteract monopolistic exploitation by price controls or by abolishing protective trade restrictions, no such action can be taken by the exploited export area. Perhaps the gravest objection to division of export markets is that they place the consumer entirely at the mercy of the supplying country, especially when it is not possible, for technical or economic reasons, for the importing country to start producing the commodity at home". This holds especially for backward countries with respect to a wide range of industrial products. (ibid.p.15).

(21) Professor Taussig wrote in connection with a discussion of this theorem: "I would not be supposed to maintain or even suggest that the trade between Europe and the East furnishes a ready verification of the theory of International Trade. The subject is one (among many such) for which we need laborious examination of the historical course of events and careful scrutiny of material....", "International Trade", P.160.

in the same way as the neutralisation of gold in Fort-Knox did in U.S.A. in the inter-war period. An evidence of the cumulative effect of these factors is the increasing tendency, contrary to what one might expect on theoretical grounds, of the terms of trade between manufacturers and primary goods to change since the eighteen seventies, in favour of former.(22)

IV. The urge for industrialisation in countries producing mainly foodstuffs and primary products is sometimes explained by this continuous worsening of the terms at which they can obtain manufactures in exchange for their products. This may be the case for those countries whose sparse population and abundant natural resources point out to the possibility of securing a high level of income by such specialisation, though, in view of the considerations referred to in section II of this chapter, and provided that their population is big enough to secure the benefits of large-scale production, it may be that they can obtain an even higher income if they developed their own basic industries. Whether they will make available to the world at large the benefits of their vast natural resources or not will depend on whether the present tendency towards monopoly in manufactures will be reversed or continued/

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(22) For figures, cf "Industrialization and Foreign Trade" (League of Nations publication, 1945), diagram 4 p.18, where the price index for manufactured goods as percentagee of that for primary goods (1913 taken as base year) is shown to rise from about 95 in 1876- '80 to about 135 in 1936-'38. Naturally, the decline in the purchasing power of primary goods in international trade was not uninterpreted. Prices of primary goods tend to fluctuate violently over the duration of the business cycle and after wars. This may give a misleading picture of the extent to which underdeveloped countries benefit from the post-war position. According to a United Nations study "Relative Prices of Exports and Imports of Underdeveloped Countries", 1949, the post-war price/

price indices for primary goods relative to manufactured goods, and, therefore, for export prices of underdeveloped countries, relative to their import prices, would generally be more favourable to them by comparison with the depressed 1932 or 1933, but not by comparison with 1920's or 1913. (ibid. p. 8). In 1947 and 1948 the price relation of primary goods in general, to capital goods was substantially more favourable than in 1937 and 1938, but this lumping together of foodstuffs and other primary products does not give an accurate view of the situation. The relative terms on which primary goods could be exchanged for capital goods in the post-war period, compared with the immediate pre-war period, depended upon the particular goods exchanged in the trade between under-developed and industrialised countries. Those under-developed countries which exported primary non-food materials, tended to be considerably worse off than those which exported food. If 1937 is the standard of comparison, it ceases to be true, even in general, that exporters of primary materials - as distinguished from foodstuffs - obtained their capital goods on more advantageous terms. Also, capital goods may be a large part of total imports, but they do not form so predominant a part as primary commodities among exports. Other manufactures, especially textiles and food, may be equally or more important. The United Nations study indicates that "the prices paid by underdeveloped countries for imports of goods other than capital goods increased so much more than those of capital goods that in the over-all picture, the sharply improved price relations, compared with capital goods, was weakened into a general, but by no means uniform, tendency for the total terms of trade of underdeveloped countries to be more favourable to them than in 1938; there was no discernible tendency for them to be better than in 1937". (ibid. pp. 8-13).

The long-term deterioration in the terms of trade of primary products cannot be explained by a more rapid increase in productivity.[11] "Although statistical data on differential rates of increase in productivity of primary production in under-developed countries and production of manufactured articles in industrialised countries are almost entirely lacking, this explanation of the long-term changes in terms of trade . . . may be dismissed. There is little doubt that productivity increased faster in the industrialised countries than in primary production in under developed countries. This is evidenced by the more rapid rise in standards of living in industrialised countries in the long period covered, from 1870 to the present day. Hence, the changes observed in terms of trade do not mean that increased productivity in primary production was passed on to industrialised countries; on the contrary, they mean that the underdeveloped countries helped to maintain, in the prices which they paid for their imported manufactures relative to those which they paid for their own primary products, a rising standard of living in the industrialized countries, without receiving, in the price of their own products, a corresponding equivalent contribution towards their own standards of living." (ibid. p. 126). For a similar opinion cf. also H.W. Singer, "The Distribution of Gains between Investing and Borrowing Countries", A.E.R., May 1950, p. 477.

continued and on whether or not development in low-income, densely-populated, countries will proceed at such a rate as to result in a large enough increase in effective demand for their products. As for densely-populated countries, this deterioration in their terms of trade is only one of the reasons for industrialisation, for even if this tendency were reversed, it can hardly be maintained that any change in their favour can raise their standard of living to any considerable extent: the sheer weight of numbers considered in relation to the size of the population in highly industrialised countries, rules out such a possibility. For the same reason, even if we abstract from the considerations of section II above, it is most unlikely that highly industrialised countries will be able to satisfy the long-run current requirements of underdeveloped countries of capital goods, if these requirements are to be at the scale demanded by a high level of income. Also, as the standard of living of the former countries continues to rise, their demand for foodstuffs, raw material and articles of simple manufacture will rise to a much smaller extent, if at all. "Technical progress in manufacturing actually largely consists of a reduction in the amount of raw materials used per unit of output, which may compensate or even over-compensate the increase in the volume of manufacturing",(23) and the development of synthetic industries increasingly transforms the supply of raw materials from the countryside to the factory. With the rise in income-levels, more and more people will be engaged in the supply of services and other goods which have to be produced locally and cannot/

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(23) H.W. Singer, loc. cit. p. 477.

cannot be imported from abroad, and a smaller number of people can be spared for export industries. This line of thought is reinforced by the tendency of population to have a slower rate of growth in highly industrialised countries than in underdeveloped countries. It is usually argued that, because of the relative abundance of cheap unskilled labour in these latter countries, they should specialise in those products which require little capital and much unskilled labour. This is a short-run argument the implications of which will be considered in the following section. For long-run purposes, we must remember that labour is cheap because of the relative scarcity of capital, that is, because labour is not re-organised more efficiently, while the development of skill is one of the main means of raising income, and its fruits accrue as much - if not more - to producers as to consumers. More important still, technical progress - as argued in section II - in any one industry in a given country is dependent for its emergence on the existence in that country of a number of industries which supply this industry with materials, capital goods, and a human store of technical skill and knowledge, and of a number of other industries which this industry supplies with its products; also the application in any given industry of the technical progress which initially takes place in another country is dependent for its swiftness, ease, and economy, on a similar set of circumstances. For all these reasons, it would seem that there is a complimentary outfit of basic industries which densely populated under-developed countries should seek eventually to acquire.

Those underdeveloped countries which are too small for such an outfit will always have a lower income than bigger countries in the same stage of development. Unless they have a special advantage such as the possession of highly demanded natural resources or proximity and access to big markets which they can supply with specialised kinds of manufacture, their income-levels may well remain very low.(24) Much will depend on the extent to which international trade will be revived and on the possibility of reversing monopolistic tendencies in the outside world. The chief remedy, however, will remain the creation of larger economic units through political amalgamation.(25)

V. The suggestion of antithesis between international trade and economic development is a false one, left over from the days when fiscal measures - taxes and subsides - were thought to be the orthodox measures of State interference in accordance with a limited

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(24) Countries such as Austria, Belgium, the Netherlands, Sweden and Switzerland, which have only between four and nine million inhabitants, "belong to an integrated European industrial economy which developed during a period when tariffs were relatively low while the tendency towards large-scale production had not yet come into full play. They are situated between or near bigger industrial states, of which the United Kingdom actually admitted manufactured articles duty-free up to 1932; Austrian products, moreover, were until 1919 admitted free of duty over the whole former Austro-Hungarian Empire, with several times the population of Austria of the inter-war period" They were able to develop highly specialised manufacturing industries dependent on a wide export market, and enjoyed large incomes on account of "invisible items" in their balance of payments such as colonial investments, tourist trade and shipping. ("Industrialisation and Foreign Trade", pp. 40-41).

(25) Mr. T. Balogh, considering the perpetuation of the present inequality of opportunity the most objectionable feature of the post-war international economic arrangements, which, he fears, will freeze an/

an international division of labour unfavourable to the poorer and smaller countries - he apparently had in mind the smallness of the U.K. market and population as compared with those of the U.S.A. - argues that, unless smaller countries are permitted to combine in co-ordinated planning of their economic reconstruction, their inferiority will in all probability be perpetuated, ("Britain's Foreign Trade Problem: A Comment", E.J., March 1948). Mr. G.D.A. MacDougall, while accepting this argument in theory but limiting its applicability to countries much smaller than Britain, refers to Mr. Rothschild's opinion that the industrialisation and welfare of these countries may be prejudiced rather than aided by membership of a bloc containing stronger neighbours, ("Britain's Foreign Trade Problem: A Reply", E.J., March 1948). Mr. Rothschild's argument, however, is restricted to the case where a laisser-faire policy is pursued. The creation of a federal union will then tend to reinforce and perpetuate the economic structure of its constituent members. "The greater industrial countries will become the centres of heavy and other monopolistic industries. The smaller countries will find opportunities in the small scale industries and in agriculture. Backward countries will remain backward just because they were backward before;" ("The small Nation and World Trade", E.J., April 1944). It does not necessarily apply in the case where the federating countries are at the same level of development and loses its relevance where there is complete political integration.

number of exceptions to a general rule of laissez-faire; for between encouraging internal development by tariff protection or by subsidies, many practical considerations virtually limited the choice to the former method, and the question therefore usually took the form of whether to develop by tariff protection or not to develop at all. Laissez-faire - in the popular sense of the term - was thus the major obstacle to laissez-passer. With State action along the lines indicated in the previous chapter, this antithesis need no longer be maintained, and development by protection should be seen for what it is; a clumsy method which encourages the growth of sheltered monopolies and which, if adopted by every nation, would lead to the shrinkage of profitable international exchange.

The most obvious reason why international trade is beneficial is the fact that countries differ widely in their natural resources, taken in relation to their population. No country can procure from its own endowment all the material it needs - even More's Utopia had to import iron - and no country can produce all its requirements of many materials with the same facility as they can be produced elsewhere. No less in importance is the fact that, for historical reasons, different countries are at different stages of development. We have seen that, by itself, unrestricted international trade between highly-developed and underdeveloped countries is not a substitute for internal development and may even be a hindrance to the economic welfare of the latters. This does not mean that underdeveloped countries should restrict their imports to foodstuffs and raw materials and proceed forthwith to produce all the manufactures they need. No economy can be transformed overnight, and international trade may

help to shorten the period of transformation and lessen the sacrifices associated with any given period. Many commodities, consumers' goods as well as producers' goods, particularly those which require much capital per unit of product, complex machinery, elaborate organisation, much skilled labour of all grades, or which are more amenable to mass-production but a sufficiently big demand for which requires a high level of income, may be very expensive to produce in under-developed countries in their initial stages of development. At the same time, the existence of a large supply of unskilled labour in these countries gives them an immediate advantage in the production of those commodities which require much unskilled labour, or for which labour can be trained after a brief period, and it would seem that the most advantageous course for them would be to move gradually in their production from the latter type of commodities to the former. It is not possible to lay any detailed rules as to how and at what rate this transformation should take place, but it would seem that it is in this sphere that the free play of market forces - whether the participants in the exchange are public bodies or private traders - should be allowed full sway. This may not necessarily lead to a world optimum, but in a world composed of independent political units, the best any country could do if it is to avail itself of the opportunities offered to it by the outside world is to follow in disposing of its resources the indications of world prices. Since, however, only by trial and error can industrial organising ability be acquired, and since the training of special kinds of industrial skill and engineering talent is a long term process which cannot be

undertaken without finding gainful occupations for the trainees, we may expect underdeveloped countries to plunge rapidly into many kinds of limited - in relation to requirements - projects whose products may be obtained more cheaply from abroad but which would serve as jumping boards for the long-run expansion of the more complex types of industrial activity. These projects would be part of the economic overhead costs.

VI. Import duties on consumers' goods, however, as well as quotas, exchange controls. . . . etc., may be resorted to, not to give protection to particular industries, but to increase the amount of foreign exchange available for the purchase of capital goods from abroad and thus speed up the process of development. This would be a parallel action in the field of international trade to the decision as to how much of a country's resources would be devoted to investment purposes, and would be influenced by the same consideration; the population factor. Since many of the goods imported in underdeveloped countries are luxuries and semi-luxuries, income redistribution would to some extent divert consumption from foreign products to home products, but this might be offset by the growth of managerial, professional and other highly-skilled labour classes which would be attracted to better-quality foreign products and to the novel articles of consumption which only high-income countries can produce at a large scale. The extent to which underdeveloped countries can increase their receipts of foreign exchange by expanding their exports is quite limited: the demand of highly industrialised countries for raw materisla is fairly inelastic, and there are fairly rigid limits to the quantities they can absorb of

low-quality or ~~single~~ simple articles of manufacture in which underdevloped countries can hope to compete with them in their own domestic markets. In the past, the difficulty was partly solved by industrialising countries exporting their manufactures to other low-income countries whose demand was similar in structure to that of the industrialising countries themselves and using the receipts to buy capital goods from highly industrialised countries, but if all, or the greater part of, low income countries are to industrialise at the same time, the same industries will be developed in each of them and the greater part of international trade between them will take the form of exchanging raw materials and foodstuffs against raw materials and foodstuffs. A flow of investment funds from highly industrialised countries which would enable underdeveloped countries to purchase capital goods therefore seems to be a necessary condition for the removal of restrictions on international trade, if this is to be compatible with a speedy and simultaneous development in them all.

CHAPTER 7.

INTERNATIONAL INVESTMENT and ECONOMIC DEVELOPMENT.

I. We referred in a previous chapter to the widely held view that high-income (highly-industrialised) countries which rely mainly on private enterprise for directing their economic activities would find it, as their incomes continue to rise, increasingly difficult to secure a state of full employment.

The deficiency of effective demand which is responsible for the difficulty may be remedied by distributional measures or by measures designed to increase the rate of investment. It was also argued in the previous chapter that a flow of investment funds from highly industrialised countries is required if economic development on a world wide scale is to be compatible with the removal of international trade restrictions in underdeveloped countries. Needless to say, this flow will also speed up the process of development in these countries and enhance their chances of winning the race against population increase. International investment may thus serve the treble purpose of contributing to the maintenance of full employment in high-income capitalistic economies, speeding up the rate of development in under-developed countries, and reducing the obstacles to the flow of goods and services between nations.

The effective use of foreign investment for full employment maintenance by high-income countries requires that its volume should indefinitely increase; otherwise the earnings of the investment

will eventually exceed the net outflow of capital and require the creditor country to import more goods and services than it exports.(1) It would not be proper to over-stress the role of foreign investment as an instrument of full employment policy - in the last resort full employment is an organisational problem - but it must also be pointed out that the development of an import surplus resulting from the cessation of the growth of net investment would by itself create transfer and employment problems of its own. In the nineteenth century, "an essential condition of the tolerably smooth working of international lending... was that it facilitated an increased output by borrowing countries of commodities for which there was a rapidly increasing world demand. So long as this condition was fulfilled, the subsequent payment of interest and sinking fund charges gave rise to no transfer problem of foreign exchange difficulty... The cessation of the need to open out new agricultural areas to meet a growing demand for foodstuffs on the part of industrial countries (which was caused by technical progress in agriculture, together with the slackening of population growth in Western Europe) removed what had previously been the main motive force of large-scale international/

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(1) Cf. W.S. Salant: "The Domestic Effects of Capital Export under the Point Four Programme," A.E.R. May 1950, pp.504 et suite. Mr. Salant however, calculates that if the U.S. invests 5 billion dollars next year at an average return of 4%, then to avoid developing an import surplus, net foreign investment should have to increase by 4% a year. It would reach about 35 billion dollars a year by the end of the century. If the gross national product increased in the next fifty years at the same rate as between 187' to 192', it would reach about 2 trillion dollars by the end of the century. On that assumption, the 35 billion dollars of net foreign investment would be only 0.3% of the gross national income.

international investment."(2) The present distribution of natural resources in relation to population does not point out to the possibility of such or similar division of labour between present densely-populated underdeveloped countries and highly industrialised countries. As to the structural unemployment which would follow the process of developing an import surplus, the rapid growth of population in the nineteenth century did not make it the difficult problem which it might now become.

I do not pretend to have any clear picture of how these long-run problems may be solved. It may not, however, be inapposite to turn in this chapter to short-run considerations, and we may perhaps be encouraged in this departure from the procedure so far adopted in this study by the reflection that in the long-run either we will all be dead or the peaceful solution of the issues which now threaten to destroy the world will have brought in its wake a change in the perspective against which long-run prospects can be discussed.

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(2) "Report of the Economics Committee", Papers of the Royal Commission on Population, p.17. The report then continued, "From the world standpoint the future of international lending presents in the light of this experience a difficult and uncertain problem. There may well be large scope for it for new purposes, e.g., for the industrial development of agricultural countries, and for securing international exchange stability. But if it is to fulfil these purposes, it will need to take very different forms from those characteristic of the nineteenth century and may need to be undertaken through a different mechanism."

It would also seem that non-economic considerations may transfer the nature of the problem. In these days of fast moving events, history, which is not tied to the rigid tracks which limit the speculations of theory, is overtaking theory, and the latter may with gain give her the right of way.

II. The rest of this chapter will therefore be confined to a discussion of the conditions under which a great flow of investment funds for development purposes can be maintained, and we may start by reviewing the present tendencies in this field.

At present, most European countries have placed direct restrictions on the outflow of capital, usually for the purposes of relieving pressure on the balance of payments, limiting the volume of total investment at home and abroad by domestic concerns as part of an anti-inflationary policy, maintaining a fluid domestic capital market and reducing the rate at which the government may borrow on it, or reducing the cost of capital to domestic industry. Controls are also imposed for political and economic reasons.(3)

Figures for 1947 and 1948,(4) including expenditure for reconstruction in the Far East, showed that total amount of long-term funds, grants and donations moving from different sources into underdeveloped/

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(3) "Survey of policies Affecting Private Foreign Investment", a study prepared by the United Nations Secretariat, March 1950, document E/1616/Rev.,1, pp. 9-10.

(4) For the information contained in this and the following paragraphs cf the United Nations "World Economic Report 1948", pp. 241 et suite.

underdeveloped areas, including grants for purposes of reconstruction in the Far East, were in the neighbourhood of 1500 million dollars in 1947 and 1800 m.d. in 1948, not counting reinvestments by subsidiary enterprises out of earnings obtained in the countries in which they operate. Because the data for the U.S. are more readily available and are more comprehensive and detailed than for other countries, and because the U.S. has come to be by far the most important source of investment funds in the post-war period, it will suffice to refer to U.S. investment in order to see the channels and directions in which the funds flow. Generally speaking, U.S. participation had been in the form of government loans and grants, private portfolio transactions, direct investment and private unilateral transfers. The total amount of funds provided by the U.S. directly to underdeveloped areas was 1,202 m.d. in 1947 and 1340 in 1948. In both years almost half of these amounts moved through private channels. The information by principal areas, however, shows a striking contrast between the Far East and the other underdeveloped areas. In the latter, the outflow of private capital constituted the major part of the total amount of U.S. funds going to them, whereas in the Far East, mainly Japan and Korea, the bulk was in the form of government grants. Taking both government and private capital into account, Latin America received 22% of the total sum, the Middle East, Africa and India 23% and the Far East 55%.

Of the <u>total</u> outflow of <u>private</u> funds from the U.S. in 1947, which amounted to 1230 m.d., 553 m.d., or about 45% had been directed to economically underdeveloped areas, of which 452 in <u>direct</u> investment./

investment. Partly offsetting those investments there had been a net inflow of 66 m.d., consisting of interest, amortization or liquidation. In 1948, the total outflow of private funds reached 1498 m.d., of which 582 m.d. went to underdeveloped areas, with a total of 450 m.d. representing direct investment. Net inflow in 1948 amounted to 46 m.d. In both years thus 902 m.d. or about 90% of total private investment, was in the form of direct investment, largely in foreign subsidiaries and branches of U.S. corporations, of which 521 m.d. went to Latin America, 294 to Africa and the Middle-East, and 87 to the Far East. The type of enterprises to which these funds were directed is no less interesting. Sixty per cent of the private investment was concentrated on the development of the petrolium industry, particularly in Venezuela, Suadi - Arabia and Kuwait, and most of the remaining amount was invested in public utilities and manufacturing industries in Brazil and Argentina, and in mining in Mexico and the Union of South Africa.

III. The most important feature of these figures is the meagre amount, proportionately to population, of total private investment funds received, by densely-populated under-developed countries. This is not a novel feature of the post war period. In the period 1919-1928, India and China, for instance, which together represent for about 40% of the world's population, each accounted for an inflow similar to, or less than that of Argentina and Australia, with only 1% of world population.(5)

CF "International Capital Movements During the Inter-War Period", United Nations publication, October 1949, p. 17.

No less in importance is the preponderance of direct over portfolio investment. The tendency of investment in all countries to take this form started with the Great Depression. The upheaval and dislocation of international economic relations which followed the destruction of the system of triangular and multilateral trade on which portfolio investment depended for its smooth functioning, the uncertainties about exchange-rates, and the growth of protectionism in all countries led investors to restrict their operations to enterprises whose products - usually foodstuffs and raw materials, since manufactures were usually protected by high tariff walls - were meant for use in the creditors' country rather than for sale in the world market. Even when the goods were sold to a third party, no transfer of payments was then involved, since the trade of the venture as well as the control of production were in the hands of the investors and the sale was likely to take place in the creditors' country and be invoiced in its own currency. Investment in railways and public utilities, which absorbed part of direct, investments before the Depression, could no longer profit from the particular advantages of avoiding transfer difficulties enjoyed by the former type of projects.(6) So far as underdeveloped countries are concerned, however, this concentration on direct investment is also/

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(6) For a detailed study of this shift away from portfolio to direct investment in the thirties and its causes, cf the study mentioned in the previous footnote, p. 48 et suite.

also not a novel feature. Thus while in the nineteen twenties total direct and portfolio investment funds of both U.S. and U.K. were of approximately equal value, no capital issues for the account of either China or India were floated in the U.S., and the British issues for India account were small and for China were negligible.(7) Direct investment, even before the dislocation in international economic relations which followed the Depression, tended to be disconnected with the economies of the recipient countries. A United Nations Study(8) of the channels to which it was directed in the 1919-1928 period has shown that it had a tendency largely to be absorbed in public utilities and transportation, distributional trade, finance, primary production (chiefly agricultural and mining and usually for export) and processing of primary raw materials, rather than in manufacturing, particularly for consumption in the countries in which investment is made. Investment in finance generally aim primarily at facilitating the sale of imported goods within these countries(9). Of the American direct investment during that period, only a fifth represented manufacturing proper; of this 84% was invested in developed or semi-developed countries (Canada, Western Europe, Argentina, Australia and New Zealand, and even/

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(7) ibid, pp. 27-29.

(8) ibid, pp. 32-33.

(9) Foreign investment in transportation also generally aimed at facilitating the export trade. Railway lines were likely to fan out from sea ports to producing areas leaving inadequate connections between the lines serving different ports or between potential manufacturing and consumption centres. Cf the League of Nations "Industrialization and Foreign Trade," pp. 45-47.

even there to a certain extent in manufacturing for export), and British direct investment showed similar characteristics. Only to a very small extent, the study concludes, did direct investment enter into manufacturing for the domestic market of underdeveloped countries; and the same tendency is noticeable in the post-war period, as we have seen from previous figures.

IV. This tendency of private investment to be direct and of direct investment to shun manufactures, particularly in underdeveloped countries, should make us somewhat sceptic ~~of~~ at about the view that all that is needed to attract foreign capital for the purpose of development is that these countries create a congenial climate for private enterprise activities.(10) Exchange restrictions, nationalization programmes, discriminatory practices and political unrest which are often held responsible for the failure of private foreign capital to participate in their development were not always a feature of the pre-war period; on the contrary, through political subordination, exterritorial rights, free-port treaties, most-favoured-nation clauses, or any combination of these circumstances, owners of foreign capital often enjoyed a privileged position in most of these countries, sometimes amounting to total immunity from taxation. Direct investment, however, need not be discouraged, for though its importance in contributing to development is bound to remain secondary, it can serve certain limited purposes, such as providing the receiving countries with foreign currency through the earnings of workers, taxes and royalties, particularly in these enterprises which/

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(10). See, for example, W.A. Brown Jr., "Treaty, Guarantee and Tax Inducements for foreign Investments", A.E.R., May 1950. In his opinion "the sooner the underdeveloped countries create a climate favourable to private American investments the better it will be for their programmes of economic development", p. 487. According to him also a bill was introduced into the House of Representatives on August 1949 which provides that before an underdeveloped country shall be eligible to receive technical assistance from the U.S. under Point Four it shall meet a series of stringent requirements, including adherence to F.C.N. treaties, tax conventions and convertibility treaties satisfactory to U.S. It provides also that after two years it shall not be the policy of Export-Import Bank to make loans to countries which have not met these conditions except by special authority of the President. In his view, its underlying philosophy is that Point Four program is essentially a program for developing under-developed countries by the use of private funds and know-how. Consequently, it would be wrong for the U.S. government to give technical assistance to any such country if it does not demonstrate by some form of 'suitable performance' that it is willing to accord reasonable and equitable treatment to private foreign capital.

The views of the U.S. Administration seem to be less definite. Its representative at the United Nations Economic and Social Council, while reiterating his Governments belief in the special contribution that private capital could make to the process of economic development through foreign investment and its hope that the process of defining the position of foreign investment by means of treaty arrangements would be greatly extended, declared that there was every reason to expect that as successive projects were integrated into over-all development plans they would receive sympathetic consideration as the time came for their financing, and that it was the policy of the U.S. Government to encourage the expansion of the activities of public institutions. Cf the "Official Records of the Economic and Social Council", Fifth year, Tenth Session, 369th meeting.

which, because they require complicated organisation, much modern technology or prolonged and expensive preliminary investigations, cannot be undertaken by under-developed countries at their present stage of development. Even for this limited purpose, agreement between investing and receiving countries for the purposes of avoiding double taxation, guaranteeing the right of investors to transfer their earnings and securing fair compensation in case of nationalisation, are required to attract capital to flow from one country to another and "attempts... to negotiate international agreement affecting foreign investment have confirmed the existence of a substantial area of conflict between the policies of capital importing and capital exporting countries. The emphasis of the former tends to fall on committments by the debtor countries relating to the non-discriminatory treatment through assurances of 'national' or 'most-favoured nation' treatment, rights to transfer income and capital, and to equitable compensation in the event of expropriation. The less developed countries tend to be concerned primarily with maintaining control over the entry and operations of direct investments in order to safeguard their economies against what they regard as exploitation and to achieve various positive objectives of economic development."(11) In the opinion of the United Nations Sub-Commission on Economic Development, the crux of the problem is not in agreement on appropriate guarantees nor the principle of maximum freedom from restraints. It/

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(11) The United Nations Secretariat "Survey of Policies Affecting Private Foreign Investment," p. 45.

It is rather in the question of how to provide the practical means for making good on the required guarantees, particularly with regard to the transfer question. Also, they point out, in the case of the countries which are members of the I.M.F. it is doubtful if they could implement such guarantees without resorting to differential treatment of claims to foreign exchanges.(12) The reason, however, seems to go deeper than that. Foreign investment would naturally be attracted only to those enterprises capable of earning high profits, and they usually contain a large element of monopoly, that is, to those areas which are usually chosen for nationalisation and naturalisation.(13) Moreover, present information shows that the development programmes of most of the underdeveloped countries formed part of general long-range plans, whose application came largely under the control of the State. This is a historical fact against which it would be wrong to protest, for theory's support, as we have seen in previous chapters, can be claimed for it. As the French delegate to the United Nations Social and Economic Council, who drew attention to these elements in the situation, has put it, "if that reasoning were carried to an extreme/

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(12) Cf, "Report of the Fourth Session of the Sub Commission on Economic Development". May 1950, paragraphs 28-29.

(13) Cf "Survey of Policies Affecting Private Foreign Investment", p. 25.

extreme, a really tragic contradiction would be found in that phenomenon, for the more a country were to make a vigorous, rational and co-ordinated effort, the more private capital would tend to by-pass it."(14)

V. The above analysis does not apply to portfolio investments, which would allow foreign capital to be assimilated into the general schemes of development of underdeveloped countries. At present, however, the flotation of loans in foreign capital markets, except through high risk-bearing agencies such as the International Bank of Reconstruction and Development appears to be out of the question,(15) and we may turn to this Bank to see how far it has discharged its responsibilities.

VI. One of the chief functions of the Bank as laid down by its constitution,(16) is to promote private foreign investments by means of guarantees or participation in loans and other investments made by foreign investors, and when private capital is not available on reasonable terms to supplement private investment by providing, on suitable conditions, finance for productive purposes out of its own capital/

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(14). Official Records of the Tenth Session, 369th meeting.

(15). Cf: "Survey of Policies...." p. 24. The U.S. Import-Export Bank of Washington may have certain potentialities in this field. It must be remembered however, that it is a single government's agency, and as such may be influenced by political or other considerations from which an international organisation would be free.

(16). United Nations Monetary and Financial Conference, Final Act, Cmd., 6546.

capital funds raised by it and its other resources.

In discharging this duty, the Bank has committed of its resources 497 m.d. in 1947 and 28 p m.d. in 1948. Actual disbursements out of U.S. dollar funds were 300 m.d. and 193 m. respectively, in addition to the equivalent of 6 m.d. in Swiss francs and Norwegian currency. The total committments up to 31st December 1948 included two development loans totalling 16 million for hydro-electric equipment machinery in Chile, which became effective onlyat the beginning of 1949, so that no disbursements were made in 1948. Early in 1949, a loan agreement was signed with Mexico (34.1 m.) and Brazil (75 m.) for hydro-electric development. At the same time, negotiations were in progress with a number of various other countries.(17) This rate, as Mr. Kaldor had stated in his evidence before the United Nations Economic and Social Council,(18) is a long way from the minimum of 2000 m.d. necessary each year for a satisfactory solution of the problem of development. He also points out that if the Bank lent at the required rate, its current resources would be exhausted in less than a year. The scantiness of the Bank's resources does not, for the present, seem to be the main reason for its failure to lend at a considerable rate./ As its representative has declared before the Economic and Social Council, and Bank has not yet exhausted its funds

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(17). United Nations "World Economic Survey 1948", p. 247. These amounts are included in the total investment figures reported in Section II of this chapter.

(18) "Official Records", Eleventh Session, p. 78.

The Bank, relying as it is for the bulk of its funds on private investors who are expected to subscribe to its loans or to loans guaranteed by it, is tied to banking standards of soundness, whereas the social and economic overhead investment projects, for which underdeveloped countries are in most pressing need, provide little or no yield in foreign exchange, and require a considerable period of time before their yield can be realised in financial terms.

According to its representative before the Economic and Social Council(19) the Bank accepts the premise that basic resources projects should be assessed in long-range terms, and with reference to secondary economic development, and within that framework, would consider the financing of what has been termed economic overhead projects within one of its activities, It recognises that cases might occur where it would be appropriate for it to provide foreign exchange to cover part of the local currency costs of a project, thus also in part covering the indirect impact on the country's balance of payment, provided that the country was sufficiently creditworthy, that the projects are of such urgency as to justify foreign borrowing, that local-currency costs of the project could not be reasonably met by available domestic resources, and that it was clearly demonstrated that the execution of the projects involved indirect foreign exchange requirements arising from loss of exports or increased imports of raw materials or essential consumption goods to prevent investment having inflationary effect, though it would not/

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(19) ibid, p. 74 et suite.

not regard such operations as the normal procedure. It is also pointed out that though a great many projects might seem sound enough in terms of local currency, the country concerned may not still be in a position to service foreign debts on all of them, and that, consequently, priorities on the basis of productivity and a general pattern of economic development have to be worked out which was consistent and well integrated. As for social overhead projects, the Bank would not necessarily reject considering them, provided that they were demonstrably productive and linked to projects of an economic nature; also if the Bank made a contribution to privately financed industrial projects and to overhead economic projects, the country itself may be able to meet the cost of social overhead projects.

This explanation of the Bank's policy was made in connection with certain proposals advanced by the United Nations' Group of Experts on "National and International Measures for Full Employment", who, observing that the Bank's resources are far too small to meet the needs of long-term investment programme, that its ability to borrow from private investors is likely to vary with the state of the capital markets of the lending countries, and that, except in special circumstances, the Bank is now restricted to lending on a specific project basis, have suggested a modification of its Statute and an extension of the scope of its activities.(20) The Group of Experts thought that, though the difference between the activities they recommended/

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(20) Cf "National and International Measures for Full Employment", Report by a Group of Experts appointed by the Secretary-General, United Nations publication, p. 56.

recommended for the Bank and its current activities outlined in the previous paragraph, may be one of degree, it was so great that it became a difference in kind.(21) Since in framing their proposals they took account of some factors which were not dealt with in the previous discussion, and since they have come forward with a set of constructive recommendations which, in the present student's view, could hardly be improved upon, it may be fitting to close this study with a summary of the relevant parts of their argument and proposals.

The Group recognises in the fact that a large part of the population of underdeveloped countries could be directed from agricultural occupations without any decrease in agricultural output a form of disguised unemployment which results from a lack of capital equipment and other complementary resources required to keep wage-earners at work. The only remedy for this form of unemployment is economic development, which constitutes the major economic problem of the world. They are of the view that the problem of full employment cannot be solved except in the context of an expanding world economy of which the economic development of underdeveloped countries would form the most important single element.(22)

They did not attempt, however, to deal extensively with the problem of development as such: their assignment was to report on national/

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(21) Cf. Mr. Kaldor's evidence before the Economic and Social Council, "Official Records", Eleventh Session p. 73.

(22) "National and International Measures for Full Employment", paragraph 20.

national and international measures required to achieve full employment. For this they prepared an elaborate set of recommendations dealing with both aspects of the problem. On the international side, they consider that the objective of full employment policy is to create conditions under which any particular country will so behave as not to prevent other countries from maintaining the stability and prosperity of their economies. Attainment of this objective requires both the achievement of over-all equilibrium and the maintenance of stability in international relations.(23) For this, they consider it necessary that some method be devised for ascertaining the general policies of countries with respect to the way in which they intend to re-establish balance in their international transactions, so that each country can bring itself into line with the future pattern and structure of world trade, that lending countries should stabilise the flow of their international investment over considerable periods, and appropriate measures be taken for facilitating this process, and that some procedure be introduced whereby the international propagation of cyclical fluctuations and a consequent cumulative contraction in world trade may be most effectively prevented, and they present three sets of recommendations for achieving these objectives.(24) Only the second set will be referred to here, though it should be noticed that the recommendations form an interrelated whole, and that some of those which are left out have a close bearing on the problem of development/

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(23) ibid, par. 98.

(24) ibid, par. 99.

development.(24)

The stabilization of the flow of international investment over substantial periods, is considered to be essential, both for the attainment of structural equilibrium in international trade and for efficient development. If governments are to make a rational use and co-ordinated approach to the adjustments required for the achievement of international financial equilibrium, it is essential that they should be able to foresee the level of external currency disbursements of the major lending countries for a considerable period ahead. And from the point of view of the underdeveloped countries, the character of the development programmes which they will be able to plan and execute will depend in large part upon the extent to which they can anticipate a steady flow of capital from the lending countries.

"Past experience" the Group observes, "has shown that foreign investment, if left to private initiative, tends to be extraordinarily unstable: it tends to dry up in periods of depression - at the very time when its cessation does the greatest damage to the maintenance of world prosperity. It is hard to see how this could be prevented without direct government action. Furthermore, the conditions for a revival of private foreign investment on any large scale have become less favourable. Quite apart from the political instability that is inimical to a revival of private lending, the underdeveloped countries themselves have strong feelings on the conditions/

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(25) Cf, for example, pars. 96-38, which deal with fluctuations in the demand for primary products.

conditions under which they will admit foreign capital. Quite understandably, they do not want a repetition of the nineteenth century, and they want to retain a substantial amount of control over capital invested in their own territories. Thus, while private investment can continue to play an important role, its extent is likely to be limited. It is evident, on the other hand, that the interests not only of the underdeveloped countries, but of the world economy at large depend heavily on a substantial and steady outflow of capital from the leading industrial countries. The only practicable solution of this problem is to organise a large part of long-term foreign lending through an international organization. The International Bank for reconstruction and Development is soundly conceived from this point of view. By placing an international buffer between the lending and the borrowing countries, it can achieve the economic advantages of foreign investment and at the same time avoid its disadvantages."

The Bank, however, as at present constituted, is precluded from bringing about a stable flow of international investment of major dimensions by the scantiness of its funds, its dependence on private lending and the restriction of its activities to lending, except in special circumstances, on a specific project basis. The group therefore suggests that, in addition to its present activities, it should be empowered to obtain funds by borrowing directly from governments and to lend directly for general development purposes, not only in special circumstances, but generally. Governments of the lending countries should take direct responsibility for/

for a considerable volume of future international investment, and in particular, they should announce in advance the total annual volume of international investment which they consider appropriate in the light of the lending capacity of their countries. Governmental loans to the Bank would consist of two parts: a predetermined amount depending on the long-run lending programmes; and a (smaller) fluctuating amount that would offset fluctuations in private investment. The Bank, which would borrow from governments on the terms on which they themselves were able to raise funds on their own markets and lend directly to governments at rates no higher than required to cover the cost of the loans, its operating expenses, and a fixed allowance for the risks of default, would act as an intermediary between lending and borrowing governments. Those losses which cannot be met out of its reserves would be apportioned among all lending governments by a proportionate writing down of their outstanding loans. Loans are to be made available for the financing of any imports that are directly or indirectly necessary for the execution of an overall developmental programme, and it would be the responsibility of the Bank to investigate the programmes and follow up their execution. To facilitate this supervision, borrowing countries should set up capital budgets which would show in detail the disbursements under the programme. The U. Nations should use every endeavour to provide the technical assistance which countries will require in framing their development programmes and in making their loan applications to the Bank.(26)

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(26) ibid, pars.111-116

VII. These suggestions have been put forward by the group of experts in the form of concrete and detailed recommendations, which are, at the time of writing, in the hands of the Economic and Social Council. Their acceptance, alongside with other national and international measures aiming at securing conditions of full employment within the framework of an expanding world economy, would mark a considerable step towards solving the problem of economic development. Whether they are accepted or not, the major part of the responsibility for development - and in terms of human aspirations the ends aimed at mean much more than this colourless term can convey - remains with the underdeveloped countries themselves. No amount of outside co-operation will be of much avail, if not matched by corresponding internal efforts, and no amount of outside discouragement will absolve the governments of these countries from the penalties of failure, for the problem is not insoluble, and the solution, however arduous it may be, is in their own hands.

CHAPTER VIII.

SUMMARY AND SOME GENERAL OBSERVATIONS(1)

This study is primarily concerned with low-income densely-populated countries, which cannot hope to obtain a high income-level by specialising in supplying world markets with highly-demanded goods in the production of which they have a special advantage based on natural resources. In these countries, all of which have a high birth-rate, the most important single factor affecting the long-run prospects of raising the standards of living is the pressure of population on limited resources, and the whole study is over-shadowed by this element in the situation.

In Chapter One, an introductory discussion of recent demographic tendencies in them presented against the background of western demographic history, brings us to the conclusion that, for purposes of policy, the population factor assumes the role of an effect rather than a cause of poverty and would be remedied by measures designed to raise the standard of living. The danger that a limited or gradual improvement may be swallowed up by an increase in numbers is pointed out and its appreciation sets a note of urgency which is maintained throughout the rest of the work.

Chapter II provides a theoretical framework within which the discussion can be conveniently organised and in terms of which the purposes/

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(1) The order of presentation of a few points has been changed in this summary.

purposes of development can be stated in a general form. The limitations of the Doctrine of Consumers' Sovereignty, which forms the cornerstone of the welfare aspect of modern economic theory, are set out, and it is claimed that some of these limitations are better dealt with from the side of income distribution, in accordance with the familiar proposition that, to the extent that redistribution does not lead to a reduction in the size of the national income, maximum satisfaction will be achieved if income is equally shared. The welfare propositions of economic theory are based on the equilibrium technique of analysis, and it is claimed that two great limitations on the validity of these propositions, particularly pertinent to the conditions of underdeveloped economies, are set by the use of this technique. The first is the undue emphasis on the problem of the optimum allocation of resources to their alternative uses, and the comparative neglect of the equally important problem of securing an optimum supply of these resources, each taken in relation to the others. The second relates to the general presumption that positions of competitive equilibrium are optimum positions: it is argued that, for countries faced with a vast store of inter-related technical knowledge waiting for application, there is no <u>a priori</u> demonstration that if each entrepreneur utilised the technical possibilities lying within his immediate field of vision, a total optimum position will be reached. In a sense, the optimum supply of resources (or factors) is, for purposes of welfare policy, merely one aspect of the central problem of their optimum/

optimum allocation, but this aspect is less amenable to the equilibrium technique which is usually applied to the general problem of allocation, and is dealt with separately in Chapter III, while the implications of the second limitation are, together with allied points, taken up in chapter V, on "Optimum Distribution of Resources and Economic Development". Beside solving the two problems of factor supply and allocative efficiency, an efficient system must also ensure full employment for its members. The question of employment is therefore taken up in an intermediate chapter.

Natural resources are necessarily given and the acquisition of existent technical knowledge and of skill is a special form of capital formation. The study of factor supply, undertaken in Chapter III, is therefore limited to a discussion of capital and population, particularly with regard to their possible interactions. In the course of an attempt to understand the nature of capital formation, in which what may be called the "proof by parable" method of demonstration was used, it is shown that for an isolated individual with constant wants, the rate at which he diverts his time from production for immediate consumption to production for future increased consumption, which would maximise his total satisfaction over time, is probably a decreasing one, and transferring the argument to the case of a community and assuming that the satisfactions of future generations are held to be of the same value as those of the present generation, this inference, if anything, will be strengthened.

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The assumptions are too sweeping for this particular result to be of any practical importance, but the approach used in this chapter will have served some purpose if it draws attention to some features of capital formation which are not brought into prominence by the received methods of analysis, namely, that it is essentially a process of diverting resources from production for current consumption to production for future increased consumption, that the sacrifices incidental to this continuous process of re-organisation are temporary while the gains are permanent, and that, at least in theory, in considering the optimum rate of capital formation, account must be taken of the process as a whole, i.e., up to the stage where a maximum amount of production has been reached. Turning to the population factor, it is argued that, through their effects on the age-composition of the community, the effects on welfare of changes in the size of population are more important and more ascertainable than those of absolute size, that an increase the size of population would have a retarding effect on the rate of capital formation if this increase is of the type which leads to a reduction in the average age of the community, and that in such a situation, there may be a case for over-riding the preferences or even the interests of present generations in favour of future ones, by speeding up the rate of capital formation and/or interfering with consumers' preferences, between various lines of expenditure. The received theory of Optimum Population is examined in a concluding section.

In Chapter IV it is argued that though the problem of unemployment

in the form in which it is experienced in highly industrialised countries is not likely, at least in their initial stages of development, to be a major problem in underdeveloped countries, population pressure, which is detrimental to a high rate of economic activity, is likely to have a depressing effect on potential new investment in a predominantly private enterprise system. This consideration provides an additional argument for State-control of the rate of capital formation.

Chapter V deals with the narrower aspects of the problem of the optimum allocation of resources to their alternative uses, and, in its latter part the discussion is related to the wider aspects of factor supply and to the question of full employment. In sections I - VII, an attempt is made to map out those areas where public enterprise is more likely than private enterprise to bring about an optimum distribution of resources. The discussion is based on the widely accepted rule that an optimum will be reached if each commodity is sold at a price equal to its marginal cost. This rule will be automatically enforced by private enterprise only under conditions of perfect competition. To secure the technical economies of integration, it is argued that all stages of production whose integration would cause an increase in efficiency should be taken into account, when determining the relation between cost and size of the firm, and to avoid the wastes of sub-optimum sizes which may result from private entrepreneurial timidity or/

or lack of resources, private enterprise would secure an optimum distribution of resources only if it can reach an optimum size directly and not by gradual steps. The conditions for the optimum distribution of resources by private enterprise are that there be a number of firms so large that none of them will be conscious of the effects of its scale of output on the price of the product and that they fixed factors of an optimum size will be directly established. The spheres where these conditions are not likely to be fulfilled in underdeveloped countries are then outlined, though only in general theoretical terms, and it is argued that where they do not obtain public enterprise is preferable to public interference by fiscal measures, and that where demand conditions are such that one unit of production of less than optimum size is required a unit larger than that indicated by market conditions should be established and output sold at a price less than average total cost. A general view of the total picture which emerges, given in Section XI, is prepared for by sections VIII - X. In Section VIII, the economic limitation on the general principle of equality of income distribution is discussed with respect to rent, labour earnings and entrepreneurial earnings. The difficult subject of interest is considered in section IX, where it is argued that, for the community as a whole, interest on already existent capital is in the nature of a surplus, and in section X, where reasons are given for doubting the sufficiency of the institution of privately organised markets for loans to/

to secure an optimum balance between present sacrifices and future gains, and the conclusion is therefore derived that there is no reason why savings should earn a reward equal to the marginal productivity of capital. The summing-up in section XI is opened by a consideration of how the rate of investment should be determined and it is argued that that rate of taxation beyond which people's ability or willingness to work is impaired is, in Malthus-ridden countries, as good a determinant of the total rate of investment as any that can be found, and that, if, even with this rate, national income increase lags behind population increase, it is still possible to accelerate the rate of income increase at some time in the future by directing more of the available investment resources towards what has been called "social and economic overhead projects". Though economic overhead projects are usually those which fall within the sphere of State action as outlined in earlier parts of this chapter, the decision as to the proportion of total investment resources devoted to them and to social overhead projects is bound to be somewhat arbitrary. Economic overhead projects will give rise to various "prime investment" opportunities, which are directly related to consumers' demands for different commodities, and a scheme is suggested for determining which of these, in accordance with previous analysis, will be taken up by the state and which will be left to private enterprise.

It will be seen that, in the previous analysis, the State is expected to play a major role in the development of underdeveloped countries/

countries, and a few comments on two points usually raised in the age-old controversy about State activity may not be out of place here. The first relates to the efficiency of the State in the economic sphere, or rather to the more specific question of incentives, since, except in the few cases which, it was argued, by their nature require an arbitrary, that is, a political decision, the State is expected to follow the objective rules which would control the activities of private enterprise, had it been operating competitively. The question of incentive only arises in the case of those activities which would earn profits for their persuers, for, as Sidgwick(2) pointed out a long time ago, the problem of initiative is the same for State as for private employees when these are wage-earners or even managers working for joint-stock companies. As for profit-earning entrepreneurial activities, his remark that the Government has more incentive for the encouragement of private initiative at its disposal than private enterprise, in the way of honours, distinctions, security of employment etc., seems also to apply. In fact, so far as initiative is concerned, State activity in the special circumstances of underdeveloped countries, ~~are con-cerned~~, seem to offer far greater possibilities than private enterprise, if the State succeeds in filling people's imagination with visions/

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(2) Cf: S. Moss: "Laissez-faire, Planning and Ethics" E.J., 1945, p. 21.

visions of social and economic progress and rousing and maintaining their enthusiasm and support for schemes of development, and it is this dynamic force, with its unlimited potentialities, which may prove to be the most decisive factor in the situation. It cannot be tapped by a rallying cry of enrichez-vous: people need something bigger than themselves to give out of their best. In underdeveloped countries, the need for and possibilities of utilising this latent force are greater than elsewhere, for only such a vision can make them willingly bear the hardships incidental to the impending process of social and economic transformation, and, I venture to generalise, it can be more easily synchronised with existing values and attitudes. Where a rural community has a long history behind it, it will have come to grips with the law of diminishing returns from land, and is reduced to subsistence level. Where there is no tradition of rapid change in productive technique, and because of the limitations on acquiring wealth by one's own efforts, attempts to increase one's wealth will always be at the expense of the essential needs of others and to some extent by appropriating the fruits of their labour. Since values, at any given level of technique, usually embody what is best for society as a whole, we find that in rural countries living at subsistence levels, popular values invariably stress the necessity and dignity of hard work and at the same time disparage the spirit of acquisition. It was not perhaps an accident that Adam Smith formulated his theory of social harmony through the persuit of self-interest at a period of unprecedented

unprecedented change in technique. The capitalist ethics, it will be remembered, are of a recent origin, and there are signs that the continuity of the old systems of ethics which they have interrupted in the West is being slowly resumed, even in those countries where the resumption is least required. There is also another important consideration. The early stages of industrialisation in the West, even with the favourable and historically exceptional circumstances under which they took place, were not always an unmixed blessing to many people, particularly wage-earners, and it was not until trade-union movements were developed and the State took various actions to mitigate the harshness of economic forces under a system predominently run by private enterprise that the antagonisms which this system aroused began to lose their disruptive and destructive character. Now though useful to their members, trade unions, as every nineteenth century economist knew, have their own disadvantages; they create special privileged positions for their members, their interference with certain beneficial market forces, and they obstruct labour mobility. Also it may well be doubted whether they can function in underdeveloped countries, in the context of the present historical situation, with the same comparative smoothness and the same effectiveness which characterised, say, the labour movement in England. Trade unions, however, are the specific reaction of workers to a predominantly private enterprise system, and they lose their raison d'etre if forstalled by State activity in the directions indicated above.

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The second point is that of individual freedom of choice in an economy in the directing of which the State plays a major part. There is nothing to add here to the familiar arguments by which advocates of planning explain that such an extension of State activity constitutes an extension of the area and content of economic freedom for the majority of the people. Since however, in one particular instance, we went further than most of them would care to go, a reference to it may be required. It was argued in Chapter III that there may be a case for the State pushing ahead with a rate of investment greater than that indicated by individual preferences and which may even sacrifice the immediate interests of the present generation for the sake of future ones. But there is no contradiction between such an apparent violation of individual preferences and the gain of popular support for such a measure; in fact, except under authoritarian regimes, such support is an indispensible condition for its enforcement. Individuals act in society in different capacities, and they may vote for a greater rate of investment than they would care to bring about by their own individual actions as savers and consumers. No claim is made for such a vote to be a "spontanious manifestation of people's will", but then the concept of democracy, even where the electorate have reached a high level of general education and political maturity, does not exclude wise leadership and technical advice.

No doubt the State of the administrative machinery in underdeveloped countries, of which, in these pages, so much is expected, leave/

leave much to be desired; this is one of the causes of underdevelopment as well as a symptom of it. Also, there is always, the danger that, armed with slogans of development and social improvement, a greater control over the economic life of a country may be used to secure selfish or unworthy ends by those who control the state-machinery. The approach used here - it is difficult to see how a study of welfare can proceed under different assumptions - was to take the bona fide of the State for granted and, assuming that its machinery is capable of improvement, to leave non-economic aspects of its activity to other branches of the social sciences.

The economic relations between underdeveloped countries and the outside world are taken up in Chapters VI and VII, which deal successively with international trade and international investment; international debts, grants and immigration being left out in this study. In Chapter VI, sections I and II, the exceptions to the general rule of free trade are stated. In addition to the two usually acknowledged cases where the production of a given commodity gives rise to more than average external economies in the producing country and where an increase in the production of a commodity in which a country has a comparative cost disadvantage results in a reduction in cost so great that it is transferred to the comparative cost advantage class, a third exception is pointed out which is based on the fact that some costs, particularly interest charges on already formed capital and the extra earnings of skill of all kinds, which enter into entrepreneurial calculations, are not, in the long run/

run, costs from the point of view of the community. The application of these exceptions is not easy in practice, but it is argued in section III that, generally speaking, they all group together on the side of manufactures, and in section IV it is suggested that the low-standards of living prevailing in underdeveloped countries are partly explained by past failure to take account of this fact. In section V it is argued that, with state action along the lines indicated in the previous chapter, and given an adequate flow of investment funds from highly industrialised countries, development by protection should be seen for what it is: a clumsy method which encourages the growth of local monopolies and which, if adopted by each country, would lead to a shrinkage in profitable international exchange.

In section I of Chapter VII, the benefits of international investment as a measure of full employment policy in highly industrialised countries, as a means of speeding up development and reducing the sacrifices which may be associated with it in underdeveloped countries and as an instrument for removing restrictions on international trade are pointed out, and the long-run transfer and unemployment problems which its cessation in the future may cause are also noted. The rest of this chapter, however, is concerned solely with the conditions under which a great flow of investment funds for development purposes may be expected to take place. A review of past and present tendencies shows that proportionately/

proportionately little amounts of private funds go to underdeveloped densely-populated countries and that this little usually takes the form of direct investment in raw-material production for the export trade (section II-III). The conclusion is drawn that though direct private investment may serve certain limited purposes, its role in developing underdeveloped countries is bound to remain secondary (section IV). Private portfolio investment seems to be out of the question under present circumstances, (section V) and the past performance of the International Bank for Reconstruction and Development is therefore reviewed in order to see if it has adequately met the present need for an intermediate link between borrowers and lenders. The result is shown to be negative and the study is concluded by a detailed summary of the United Nations' Group of Experts on National and International Measures for Full Employment analysis of the situation and their recommendations for a modification of ~~its~~ the Bank's Constitution and an extension of the scope of its activities.

REFERENCES.

(Only works to which reference was made in the previous pages in connection with specific points are included in the following list).

A. - OFFICIAL PUBLICATIONS

UNITED NATIONS' PUBLICATIONS

- Official Records of the Economic and Social Council, 10th and 11th sessions.
- Reports of the United Nations Sub-Commission on Economic Development in Underdeveloped Countries, 2nd, 3rd and 4th sessions.
- "Industrialisation and Foreign Trade", 1945.
- "Relative Prices of Exports and Imports of Underdeveloped Countries", 1949.
- "Methods of Financing Economic Development in Underdeveloped Countries", 1949.
- "Capital Movements in the Inter-War Period" 1948.
- "Economic Development of Under-developed Countries: Survey of policies Affecting Private Foreign Investment", E/1614/Rev. L, March 1950.
- "International Cartels": 1947.
- "National and International Measures for Full Employment", 1949, a report by a Group of Experts appointed by the Secretary-General.
- "Survey of Asia and the Far East, 1949".
- "World Economic Report, 1948."
- Report of the Royal Commission on Population, 1949, Cmd 7695.
- Report of the Economics Committee, Papers of the Royal Commission on Population, volume III, 1950.
- Board of Trade: Working Party Reports, Colton, 1946.

B. - NON-OFFICIAL PUBLICATIONS

ALLEN, J.C.: "A short History of Japan", 1945.

ALLEN, R.G.D.: "Mathematical Analysis for Economists", 1938.

ANIS, M.: "An Analysis of Egypt's National Income", 1949, an unpublished thesis in the library of the London School of Economics.

ASHTON, T.S.: "The Industrial Revolution, 1760 - 1830".

AYRES, C.E.: "The Theory of Economic Progress" 1947.

BALOGH, T.: "Britain's Foreign Trade Problem, A Comment", E. J. March 1948.

BLACKER, C.: "Stages of Population Growth", Eugenic Review, vol. 39, No. 3, Oct. 1947.

BROWN, jr. W.A.: "Treaty, Guarantee and Tax Inducements for Foreign Investment", A.E.R., May 1950.

CANNAN, E.: "Elements of Political Economy" 1888.
"Wealth", 3rd ed.

CARR-SAUNDERS, SIR ALEXANDER: "World Population", 1936.

CHAMBERLAIN, E.: "The Theory of Monopolistic Competition", 6th ed.

CLAPHAM, J.H.: "The Economic Development of France and Germany".

CLARK, C.: "Conditions of Economic Progress" 1939.

CLELAND, W.: "A Population Plan for Egypt", L'Egypte Contemporaine, May 1939.

DAVID, K.: "Demographic facts and Policy in India" published in "Demographic Studies of Selected Areas of Rapid Growth" by the Milbank Memorial Fund.

FRASER, L.M.: "Economic Thought and Language" 1937.

GRAFF, J. de V.: "Mr. Harrod on Lump Saving" Econ. Feb. 1950.

GRAHAM, F.D.: "Some Aspects of Protection Further Considered", Q.J.E. 1923.

"Reply" Q.J.E. vol. 39.

HABERLER, G.v.: "The Theory of International Trade" 1933.

Some Problems in the Pure Theory of International Trade" E. J. June 1950.

HARROD, R. "Analysis of Supply" E. J. Dec. 1931.

"Trade Cycle" 1936.

"Scope and Method of Economics" E.J. 1938.

"International Economics" 2nd edition.

"Towards a Dynamic Economics" 1948.

HAYEK, F.: "Utility Analysis and Interest", E.J., Mar. 1936.

"The Pure Theory of Capital" 1941.

HICKS, J. R.: "The Foundations of Welfare Economics" E. J., Dec. 1939.

HIGGINS, B.: "The Theory of Increasing Unemployment" E. J. July 1950.

ISSAWI, C.: "Egypt: An Economic and Social Analysis" 1947, for the R.I.I.A.

JURKAT, E.: "Prospects of Population Growth in the Near East" in "Demographic Studies of Selected Areas..."

KAHN, R.F.: "Some Notes on Ideal Output" E. J. Mar. 1935.

KEIRSTEAD, B.S.: "The Theory of Economic Change" 1948.

KISER, C.V.: "The Demographic Position of Egypt" in "Demographic Studies in Selected Areas".

KNIGHT, F.:- "Some Fallacies in the Interpretation of Social Cost", Q.J.E., vol. 38.
"Rejoinder" vol. 39.

LERNER, A.: "Economics of Control", 1944.

LORIMER, F.: "Essential Standards of Living" in "Proceedings of the International Congress on Population and World Resources", 1948.

LITTLE, I.G.D.: "A Critique of Welfare Economics" 1950.

MACDOUGALL, G.A.D.: "Britain's Foreign Trade Problem: A Reply" E. J. Mar. 1948.

MACGREGOR, D.H.: "Economic Thought and Policy" 1949.

MARSHALL, A.: "Principles".

MEADE, J.E.: "Economic Analysis and Policy" 2nd ed. 1937.

"Mr. Lerner on the Economics of Control" E. J. 1945.

MYINT, H.: "Theories of E. Welfare" 1948.

OHLIN, B.: "International and Interregional Trade" 1933.

PIGOU, A.C.: "Economics of Welfare" 4th ed.

RAMSAY, F.: "A Mathematical Theory of Saving", E.J. Dec. 1928.

REDFORD, A.: "The Economic History of England".

ROBBINS, L.: "The Optimum Theory of Population" in "The London Essays of Economics" ed. Dalton 1927.

"The Representative Firm" E. J. 1928.

"Nature and Significance of Economic Science" 2nd ed.

ROBINSON, J.: "Mr. Harrod's Dynamics" E. J. Mar. 1949.

ROSENSTEIN-RODAN, P.N.: "Problems of Industrialisation of Eastern and Southeastern Europe", E. J. June-Sep. 1943.

ROTHSCHILD, K.W.: "The Small Nations and World Trade" E. J. April 1944.

SALANT, W.S.: "The Domestic Effects of Capital Exports Under the Point Four Programme" A.E.R. May 1950.

SAMUELSON, P.: "Foundations of Economic Analysis" 1947.

SCHUMPETER, E.B.(ed.): "Industrialisation of Japan and Manchukuo" 1940.

SHELVANKER, K.S.: "The problem of India", 1940.

SINGER, H.W.: "The Distribution of Gains between Investing and Borrowing Countries", A. E. R., May 1950.

STIGLER, G.T.: "The Theory of Prices" 1946.

SWEEZY, A.R.: "Population Growth and Investment" Q.J.E., CLV, 1940.

TAUSSIG, F.: "International Trade", 1927.

TAWNEY, R.H.: "Religion and the Rise of Capitalism", Pelican ed.

VEBLEN, T.: "The Theory of the Leisure Class", 1924.

WARRINER, D.: "Land and Povefty in the Middle-East" 1947, for the R.I.I.A.